FIRE ENGINEERING

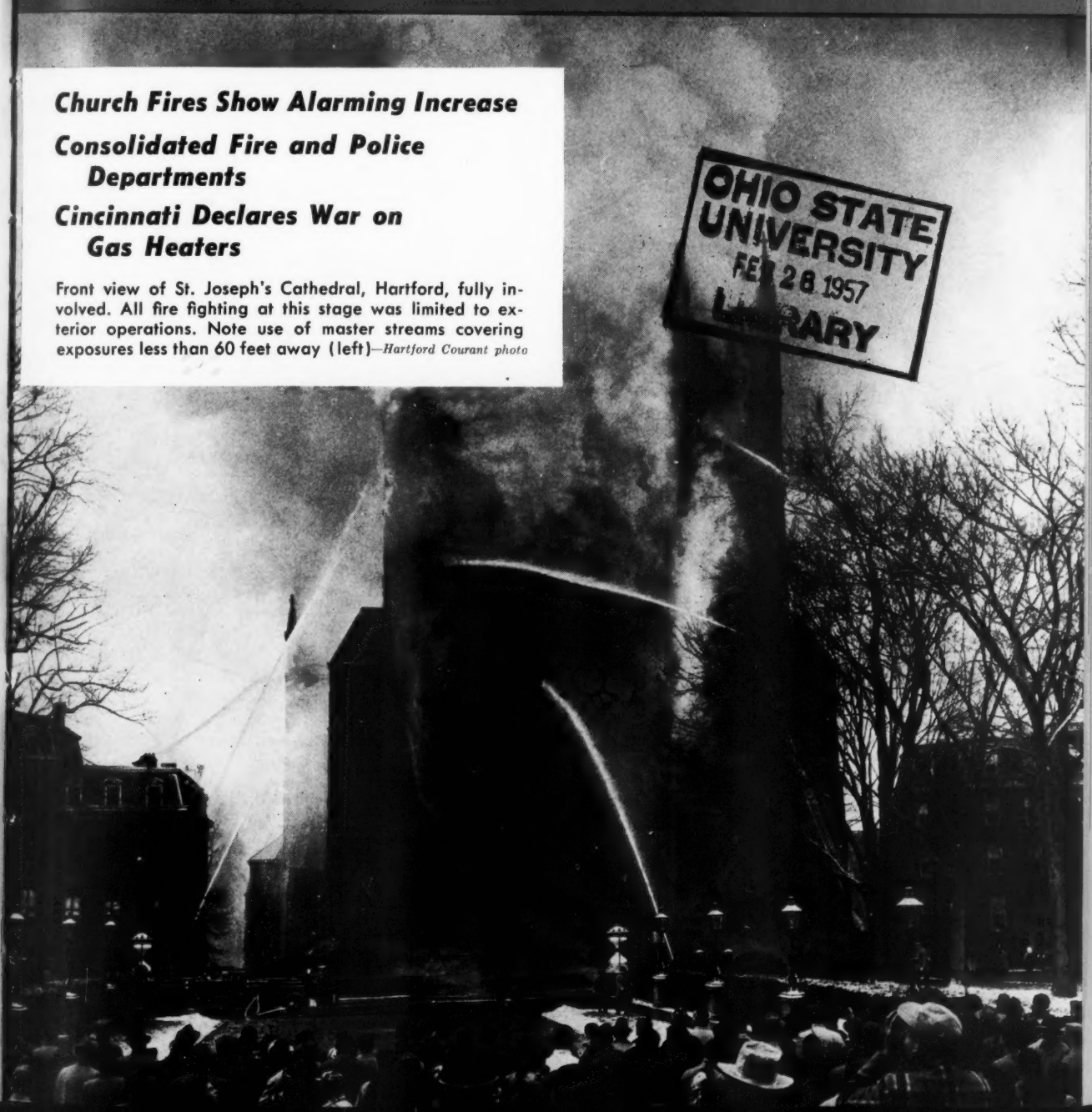
The Journal of the Fire Protection Profession Since 1877

FEBRUARY, 1957

Church Fires Show Alarming Increase

Consolidated Fire and Police Departments

Cincinnati Declares War on Gas Heaters



Front view of St. Joseph's Cathedral, Hartford, fully involved. All fire fighting at this stage was limited to exterior operations. Note use of master streams covering exposures less than 60 feet away (left)—*Hartford Courant photo*

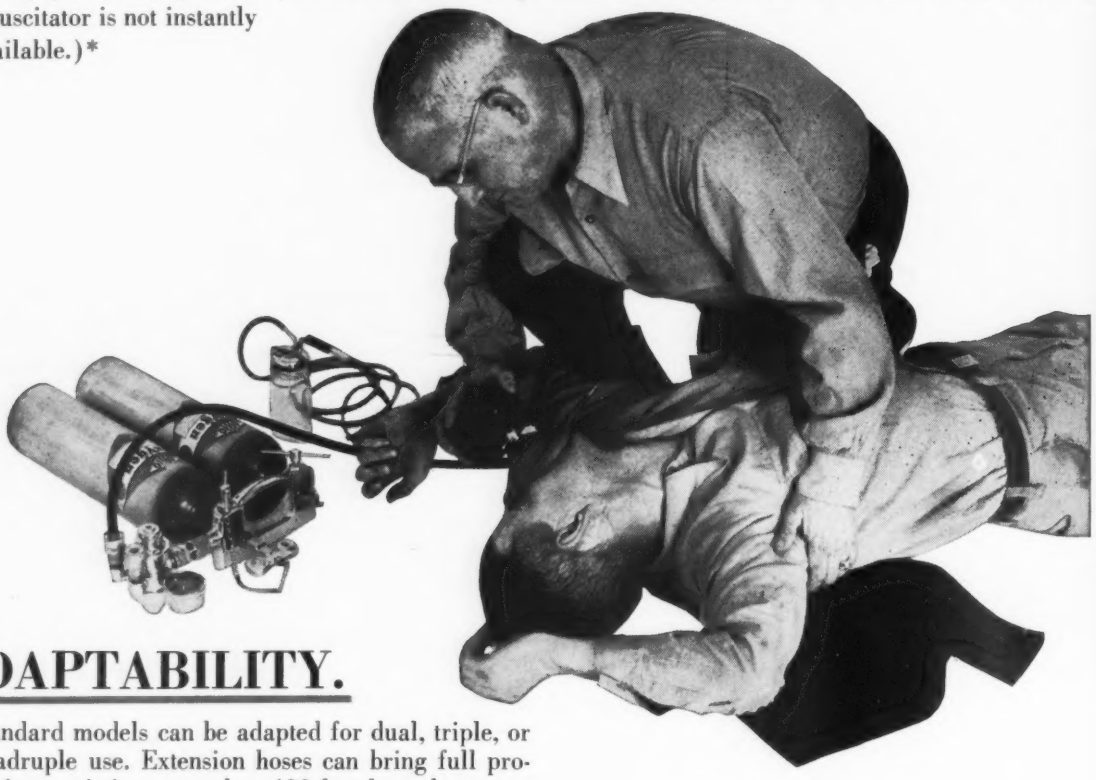
OHIO STATE UNIVERSITY
FEB 28 1957
LIBRARY

These Advantages Add Up!

SIMPLICITY. In breathing emergencies speed saves lives, and simplicity means speed. Emersons have it.

SAFETY. No instance has ever been recorded of injury from the gentle pressures used. Since approval by the American Medical Association in 1942 thousands of cases have been treated, all safely, including adults, children, and even newborn babies. An important safety factor is the suction phase, which gives vital aid to the circulation by helping the heart to fill normally.*

EFFECTIVENESS. Extensive medical research has found immediate positive-and-negative resuscitation to be the most effective life-saving measure in asphyxial emergencies. (Manual artificial respiration, however, should be used as first aid, if a resuscitator is not instantly available.)*



ADAPTABILITY.

Standard models can be adapted for dual, triple, or quadruple use. Extension hoses can bring full protection to victims more than 400 feet from the parent machine. Manifolds are available for Civil Defense protection.

Write for circular on the newest models.
**Write for free bulletins "Medical Reference on Resuscitation" and "A New Manual Method of Artificial Respiration."*

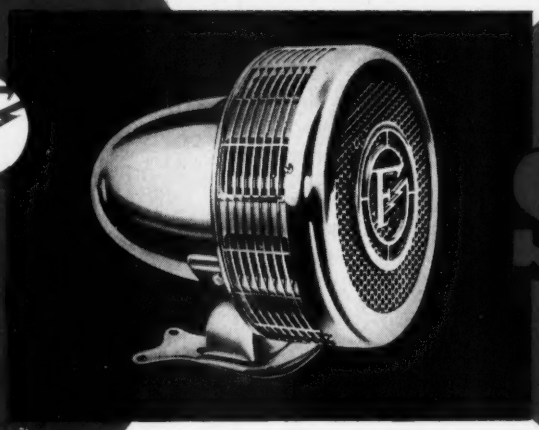
EMERSON RESUSCITATORS

Can Help You Save Lives

J. H. EMERSON COMPANY

32 COTTAGE PARK AVENUE, CAMBRIDGE 40 MASSACHUSETTS

Modern traffic calls for a louder siren
and the FEDERAL Class Q Sirens are the answer!
"Super" describes these sirens more than "super power";
not only are they more powerful
but they are "super" in design, quality and durability.
FEDERAL Class Q Sirens consume less current
than many smaller, less powerful signals.
Added to this lower current drain is their long-coasting
providing a more sustained sound output,
while consuming no current.



Super

These massive rugged sirens are available in two styles:
streamlined and chrome plated as illustrated
or non-streamlined in baked enamel,
for concealed mounting.
Electric brakes are optional on either type.
You need a FEDERAL Q Siren to back up the all-prevading beam
of your FEDERAL Beacon Ray light.
Specify and insist upon a FEDERAL Q Siren
for all your apparatus.
Write for our bulletin #300 today!

FEDERAL SIGN and SIGNAL Corporation

[illegible] E. State St., Chicago 19, Illinois

FIRE ENGINEERING

VOL. 110 FEBRUARY, 1957 NO. 2

IN THIS ISSUE

FEATURES

A Calamity and a Disgrace—An Editorial 127
By Roi B. Woolley

Church Fires Show Alarming Increase as New Year Opens 128

Consolidated Police and Fire Departments 132
By William L. Miller

Salvage Case Histories—Part XXI of a Series 134
By Roi B. Woolley

USAF World-Wide Conference on Fire Protection and Aircraft Rescue 137

Cincinnati Declares War on Hazardous Gas Heaters 138
By Charles W. Gruber

Hayward Has Cure for Wayward Growing Pains 140

DEPARTMENTS

News of the Manufacturers 148

False Alarms 154

Among the Buffs 156
By Paul C. Ditzel

World-Wide Fire News 158

Schools and Conferences 160

What's Burning? 161

Watch Desk 166

The Round Table 168

Short Cuts and Gadgets 174

Persons in the News 175

Our Readers Write Us 177

Obituaries 185

Questions and Answers 189

Published the fifteenth of each month by the Case-Shepperd-Mann Dept., Business Papers Division, The Reuben H. Donnelley Corp., 305 East 45th St., New York 17, N. Y., David L. Harrington, Chairman of the Board; Gaylord Donnelley, Vice Chairman of the Board; Curtiss E. Frank, President; Albert M. Andersen, Executive Vice President; Harold P. Harper, Vice President; Donald R. Arnold, Vice President; Hamilton B. Mitchell, Vice President; Giles B. McCollum, Vice President; Edward A. O'Rorke, Assistant Vice President; Karl G. Clement, Controller; James H. Evans, Secretary-Treasurer. Edward B. Wintersteen, Executive Manager, Business Papers Division. Publication Office, 109 West Chestnut St., Lancaster, Pa. Address all correspondence to 305 East 45th Street, New York 17, N. Y.

Eastern Representative, William J. Gibson; Chicago: 8 So. Dearborn St., L. M. Roche, Richard H. Baum; San Francisco: Mills Building, Duncan A. Scott & Co.; Los Angeles: 6000 Miramonte Blvd., August Haurin.

Subscription Rates: U. S. and Canada, $3.50 a year ; Pan-American and Foreign, $4.50; Single copy, 40¢.

Printed in U. S. A. Second class mail privileges authorized at Lancaster, Pa., on January 27, 1956.

Copyright 1957, Business Papers Division, The Reuben H. Donnelley Corporation. Entire contents of this publication covered by general copyright. All rights reserved. Title registered in U. S. Patent Office.

Postmaster: Mail Form 3579 for undeliverable copies to 305 East 45th St., New York 17, N. Y.

The Bigness of Little Things

What makes the successful book, or play, or job of fire fighting, if you please?

There is no single recipe. The success, whatever its nature, is usually the sum total of a lot of little attributes.

Trying to put your finger on a single reason for the success of an engineering journal like FIRE ENGINEERING, that has carried on for over three-quarters of a century, is like trying to pick out one single operation that licked a bad fire.

Usually what we call success is based on a lot of little things that were well done, or came out right, just as failure to hold a fire is not usually the result of a single mistake or error, but of a number of little things that went wrong.

Who was it said, "Perfection is no trifle—but trifles make perfection"?

As one well known fire chief puts it, "If we can take care of all the little details of fire fighting, we needn't worry about the final outcome."

For 80 years now, this journal has adhered to the publishing dictum of getting, analyzing and presenting the facts—little and big—to a large and ever-growing audience. That goes for its advertising as well as its editorial content.

The Publishers

FIRE ENGINEERING —A CONSOLIDATION OF FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION AND FIRE SERVICE

I. HERBERT CASE
General Manager

FRED SHEPPERD
Editorial Director

ROI B. WOOLLEY
Editor

DONALD M. O'BRIEN
Assistant Editor

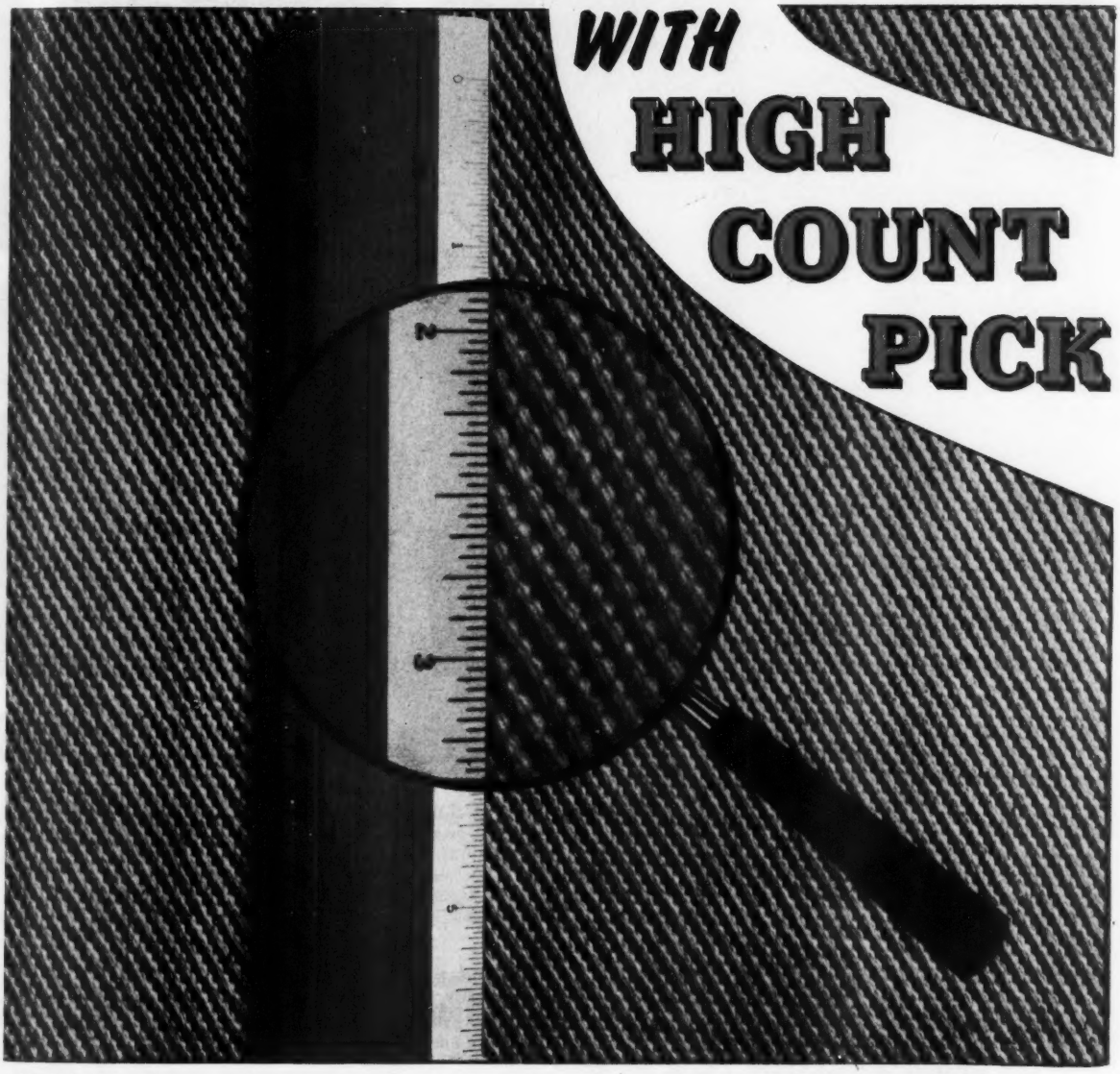
D. FERGUSON
Managing Editor

ALFRED J. HOUGHTON
Advertising Director

MEMBER
Audit Bureau of Circulations
Associated Business Publications

FABRILON

WITH HIGH COUNT PICK



"*Pick*" is the number per inch of filler strands, or those which go *around* the hose. FABRILON has the remarkably high pick count of 12 to 14 per inch. In FABRILON, high pick count means *closely woven twill jackets* which *resist abrasion and snagging* and slide over obstacles with *minimum surface friction.* It also means *smooth texture, ease of handling, high burst* and resistance to *pressure shock* or *water hammer.*

FABRIC FIRE HOSE COMPANY

THE ONLY EXCLUSIVE MANUFACTURER OF FIRE HOSE IN AMERICA

SANDY HOOK CONNECTICUT

Dependable Fire Fighting with MARLOW PUMPS

With a supply of surface water, a stream or pond, this portable pump becomes an efficient and light-weight fire fighter. Powered by a dependable four-cycle gasoline engine, it primes itself and starts pumping only 15 to 30 seconds after starting. Highly portable, the Marlow Fire Pump can be placed in a car trunk or jeep and dispatched quickly in an emergency. Because it is easily carried, the pump can be moved to remote areas that a pumper can't reach. On location, it is equally useful for either fire fighting or booster service.

Marlow Fire Pumps provide dependable protection for municipalities, industrial plants, and farms. It is indispensable to Fire Departments. This pump was engineered specifically for the job and has many outstanding features . . .

Exhaust primer — primes pump in 15 to 30 seconds, easily accessible to pump operator.

Lightweight — ribbed aluminum construction withstands high pressures, making readily portable unit. Weighs only 160 pounds with gas and oil, ready to operate.

Compact design—easily placed in small compartments or spaces on any pumper as well as in car trunks, jeeps, or pickups.

Welded-steel runner-type base — makes a rigid mount that can be easily lifted or skidded.

Combination vacuum and pressure gauge — when priming, shows operator whether or not there are leaks in suction hose. When pumping, allows operator to adjust pressure to individual operating conditions.

Dependable four-cycle engine — assures easy quick starting, unattended operation.

Shielded spark plug connection — prevents ignition failure from wet weather or spray.

Protective handles — Wrap around engine and pump and protect vulnerable parts. Handles are extra strong and are placed for convenient carrying.

Remote throttle — mounted on top of engine for easy operation.

Mechanical shaft seal — long-lived, rugged and requires no adjustment.

Automatic check valve — seals off discharge while priming, swings out of way when pumping starts, no hand valve to manipulate.

Fog or foam operation — over 100 pounds pressure available for low pressure fog or foam operation.

For details, literature, or application data, see your Marlow dealer today or write direct for Bulletin F-04.

Marlow PUMPS

6-227

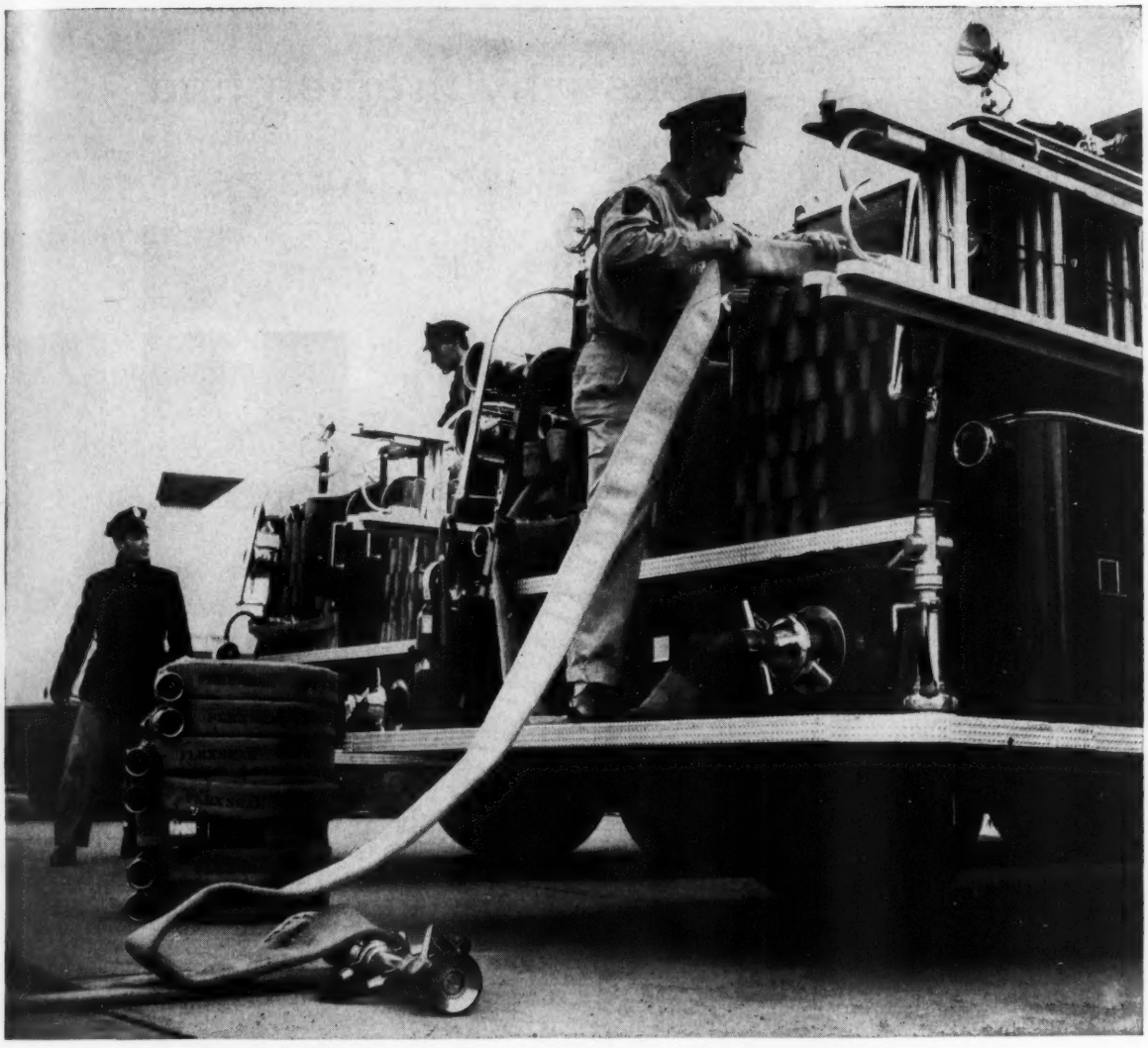
DIVISION OF

BELL & GOSSETT CO.

Midland Park, N. J.

Morton Grove, Illinois Longview, Texas

B.F.Goodrich



Now B. F. Goodrich hose has 10 times more mildew resistance

HERE'S the new fire hose that's 10 times more resistant to mildew attack and rotting. It's B. F. Goodrich Flexseal, protected with the exclusive Superseal treatment.

Unlike ordinary treatments that just coat the surface of hose, the Superseal solution penetrates every cord in both the inner and outer jacket. This special chemical treatment also protects against moisture absorption and freezing, increases the hose's resistance to fire.

However, this added protection is just one reason why the Maple Heights, Ohio, Fire Department equipped their two new pumpers with B. F. Goodrich hose. With Flexseal, they get a hose that's 23% lighter, 50% stronger, much more flexible than ordinary hose. Trucks can carry a third more hose, and it cuts minutes from loading time because it racks naturally on the truck bed, doesn't kink or twist.

And most important—with all these improvements, B. F. Goodrich Flexseal costs no more than ordinary treated hose. There's a B. F. Goodrich fire hose distributor near you, ready to bring this and other B. F. Goodrich hose improvements to your department. Give him a call or write *B. F. Goodrich Industrial Products Company, Dept. M-877, Akron, 18, Ohio.*

B.F.Goodrich

INDUSTRIAL PRODUCTS

Most productive V-8 horsepower

One of 9 reasons why firemen find International Fire Truck Chassis cost least to own!

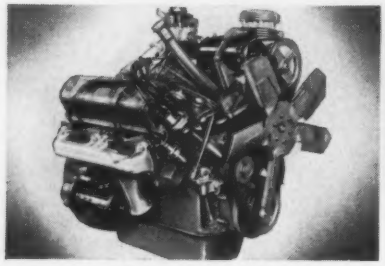
Nowhere else can you get so much usable power for so low a cost! Up to 257 hp!

Not only is this superior power and performance the best value, but so is the complete INTERNATIONAL Fire Truck chassis. Why? Because of one INTERNATIONAL policy to use the finest parts, features and components—to spend more to build the truck so it keeps operating costs at rock bottom. And cost record figures prove* that over the years, INTERNATIONALS cost *least* to own.

Why not have a truck expert explain all the details? He's a reliable businessman, your INTERNATIONAL Truck Dealer.

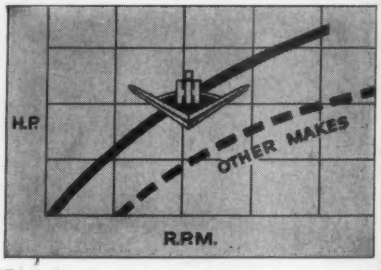
**Signed statements in our files, from fleet operators throughout the U.S., back up this statement.*

INTERNATIONAL HARVESTER COMPANY, CHICAGO
Motor Trucks • Crawler Tractors
Construction Equipment • McCormick® Farm Equipment and Farmall® Tractors

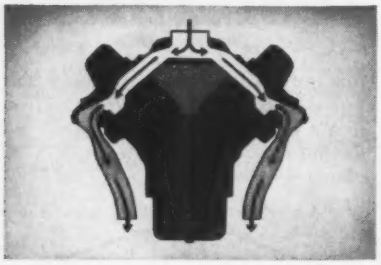


1 Most productive V-8 horsepower . . . up to 257 hp. Nowhere else can you get this much usable power for so low a cost. You get the agile performance you demand at low engine rpm along with minimum expense . . . the perfect combination.

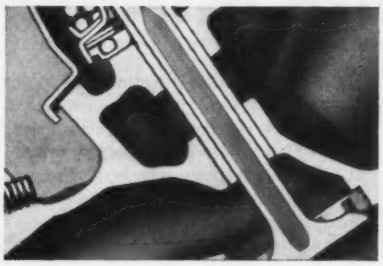
2 V-8 power to match every need. Choice of 206, 226, and 257 hp. Quick starts, faster acceleration and responsive power for every emergency driving condition—hills, corners and straightaways. Bonus pumping capacities, too.



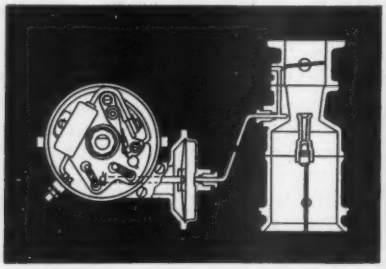
3 Truly low friction design is the result of both short stroke (less piston travel) and low engine rpm. New INTERNATIONAL V-8's are designed for *both* to give greater fuel economy, lower maintenance costs and better performance.



4 Improved performance and greater efficiency are achieved by the new INTERNATIONAL V-8 free-breathing design. Less restriction in passages provides for proper air-fuel mixture that increases volumetric efficiency to a high *92%*.

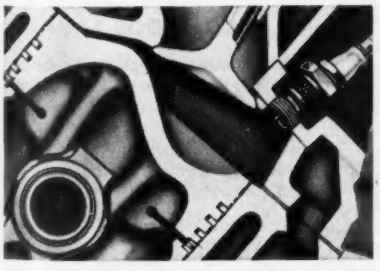


5 World's most modern V-8's have exclusive "wet" replaceable exhaust valve guides, positive rotating valves, hydraulic tappets, exhaust valve faces and seats of heat-resistant stellite to cut servicing costs and increase dependability.

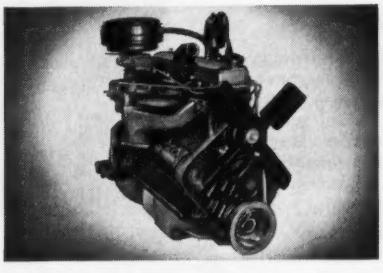


6 Distributor is fully vacuum controlled and sealed for top performance, dependability, and economy. New, high-capacity 12-volt ignition system has positive engagement starter and special "hot spark" circuit for quicker, surer starts.

One of four new V-Line fire truck chassis with up to 257 hp. There are eleven other specialized INTERNATIONAL models, too. Every one available with the components and power to match your specifications *exactly*. If you want the best in fire truck chassis, the one that costs *least* to own, you want an INTERNATIONAL.



7 Fully machined combustion chambers prevent power-robbing carbon deposits. Peak performance is maintained longer. Service costs are kept at rock bottom. You get maximum power and economy with regular grade gasoline.



8 The performance you need and want with eleven engines, including eight famous sixes, up to 212 hp. Models available with three and four different power plants. INTERNATIONAL-built for top performance, long dependability at least cost.

9 In the world's most complete line, there are also ten all-wheel-drive models. Ideal for fighting fires where the going is rough and tough. Specialized chassis for rescue units, too. Name it, there's an INTERNATIONAL just right for you.

Increase your fire-fighting efficiency and safety with

M.S.A. MASKFONE

Self-contained communication system between two mask wearers or a wearer and a remote control point. No batteries or external power needed. Clear, crisp voice communication aids fire-fighting efforts by permitting instant relay of instructions, warnings. Write for details.

M.S.A. "ALL-SERVICE" MASK®

For fire-fighting efforts in air contaminated with smoke and gas, but where sufficient oxygen is present to support life, the "All-Service" Mask assures dependable breathing protection to the wearer. Available with the M.S.A. "Cleartone" Speaking Diaphragm for clear speech transmittal. Write for details.

M.S.A. PNEOLATOR

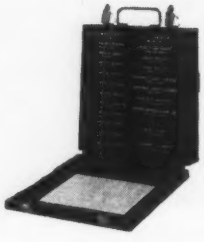
Assures maximum chances of recovery in all cases of arrested breathing. Provides oxygen at the preselected amount and pressure. There is no suction cycle—exhalation takes place by the normal passive return of respiratory muscles. Portable, rugged carrying case. Write for complete details.

M.S.A. STREAMLINED FIREMAN'S HELMET

Meets all requirements for fire-fighting hats—molded laminated plastic takes bumps and blows, withstands water, oil, heat, provides high dielectric strength. Streamlined design adds eye-appeal; shields are of tough, full-grained leather; winter lining zips in quickly. Write for details.

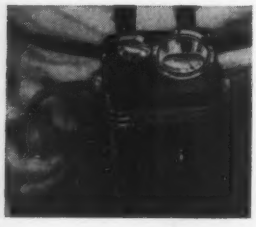
M.S.A. FOILLE BURN KIT

This kit is supplied with four aerosol sprays for quick, effective application to burned areas to ease pain and aid in the control of shock. Aerosol application is fast, effective, always ready. Kit also contains a complete assortment of first aid dressings and accessories. All units are assembled in a weather-proof steel case. Write for details.



M.S.A. FIRST AID KIT

Designed to meet all the requirements of fire department service. Contents of the M.S.A. Kit are individually wrapped in cellophane to protect against dirt, dust and moisture. All-weather steel case design provides an added safeguard. A complete supply of emergency treatment for immediate application is contained in unit packages for quick location, individual treatment. Write for details.



M.S.A. EXPLOSIMETER®

A compact, portable, easy-to-use instrument for checking suspected areas for explosive gases and vapors during fires and in general survey work. Body carrying straps, and one hand operation permit unhampered use. Easily read dial, rugged, simple to maintain. Write for details.

M.S.A. FLOOD LAMP

Safe in most gaseous atmospheres, this lamp combines brilliant, unfailing illumination with easy portability. Equipped with standard Edison Batteries in magnetically-locked steel container. Lamp housing is water and dustproof.

Call the M.S.A. man
on your safety problem
. . . his job is to help you

MSA
SAFETY EQUIPMENT HEADQUARTERS

proved M·S·A equipment

M·S·A CHEMOX®

This unit provides complete breathing protection for firefighters in oxygen-deficient or unbreathable atmospheres. Pure oxygen, released from the replaceable chemical canister the instant the wearer breathes, continues automatically in accordance with the breathing demands. This protection is provided for a minimum of 45 minutes under rugged working conditions.

The Chemox is light—only 13½ pounds. It is comfortable, designed for freedom of movement. The canisters can be stored indefinitely—are always ready. M. S. A. "Cleartone" Speaking Diaphragm, which permits clear communication between mask wearers, is standard equipment. Write for details.

M·S·A AIR-MASK

... available with AIR or OXYGEN

This unit, designed to bring respiratory protection and comfort to users in unbreathable atmospheres, supplies air or oxygen in exact accordance with breathing needs. During exhalation, the flow ceases—an economy measure that greatly lengthens service life.

Here are a few of the construction details—

- ... large, well-defined figures on pressure gauge for easy reading.
- ... the high pressure hose is made of wire-inserted neoprene for increased wear.
- ... the redesigned cylinder valve connects directly to the cylinder and the improved working parts of the valve provide greater serviceability and less maintenance.
- ... the nylon harness is easily adjusted and provides maximum strength. It is highly chemical and water-resistant.
- ... the new color scheme is an attractive dark green and yellow. This striking appearance makes it easier to spot men in working areas. Write for details.

MINE SAFETY APPLIANCES COMPANY
201 North Braddock Avenue, Pittsburgh 8, Pa.
At Your Service: 76 Branch Offices in the United States

MINE SAFETY APPLIANCES CO. OF CANADA, LTD.
Toronto, Montreal, Calgary, Edmonton, Winnipeg, Vancouver, Sydney, N.S.
Representatives in Principal Cities in Mexico, Central and South America
Cable Address: "MINSAF" Pittsburgh

Mine Safety Appliances Company
201 North Braddock Avenue
Pittsburgh 8, Pennsylvania

Gentlemen:

☐ Please have a representative call.
☐ Please send me literature on the following MSA products:

☐ M.S.A. Maskfone	☐ M.S.A. "All-Service" Mask
☐ M.S.A. Pneolator	☐ M.S.A. Fireman's Helmet
☐ M.S.A. Foille Spray Kit	☐ M.S.A. First Aid Kit
☐ M.S.A. Explosimeter	☐ M.S.A. Flood Lamp
☐ M.S.A. Chemox	☐ M.S.A. Air Mask

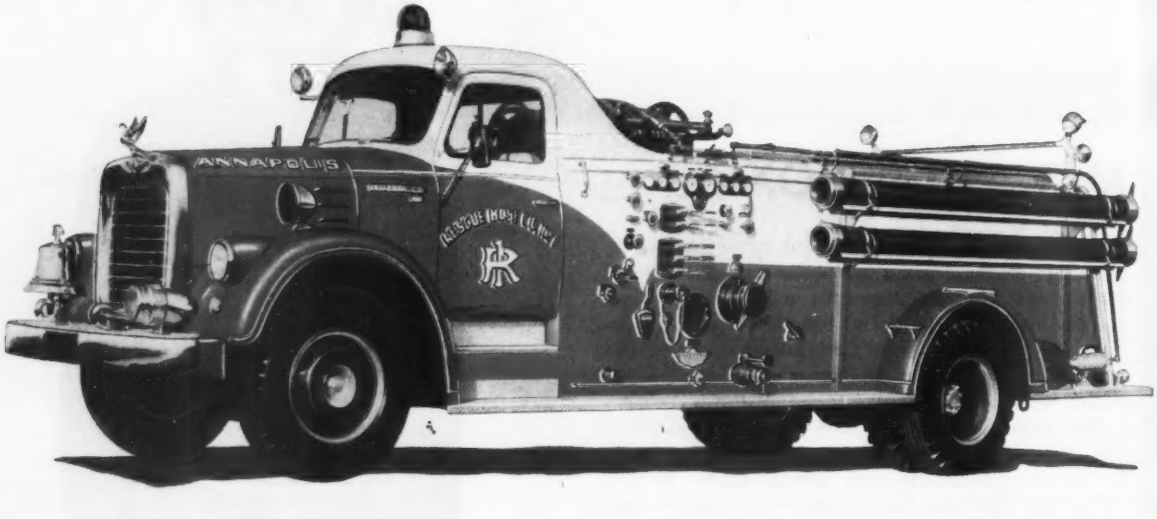
Name_____ Position_____

Fire Department_____

Address_____

City_____ Zone____ State_____

Now! from American Fire Apparatus Co.



. . . a 1,000 gpm pumper built on a modern, dependable commercial truck chassis

Three outstanding advantages put this new American Fire Truck 'way ahead!

First, it's equipped with the well-known Barton-American Duplex-Multistage centrifugal pump of *proven* design and performance.

Second, it's built on a modern, up-to-the-minute *commercial* truck chassis . . . backed by all the experience in engineering and exhaustive testing of a large-volume truck manufacturer . . . to insure *great dependability* under all operating conditions. As with all commercial trucks, dealer service is conveniently available in almost any city or town.

Third, this truck includes the major engineering advantages and exclusive features that make American Fire Apparatus famous. For operating ease, great fire-fighting effectiveness and minimum maintenance, this combination is unequalled!

Call on American—where you select the chassis you want—the body style you want—with either midship or front-mounted pumps—and many other features to suit your community's needs.

Contact your nearest

American representative

for full details!

Commercial chassis dependability with frost-proof, front-mounted pump and other fine features.

American

AMERICAN FIRE APPARATUS CO.

FIRE APPARATUS CO.

Main Office: Main Street Rd., Battle Creek, Mich. Plants at: BATTLE CREEK, MICH., MARSHALLTOWN, IA., STRATFORD, ONT.

Chief POWHATAN'S *NEW*

DURA-FOG NOZZLE*

- ***A Strong Husky Nozzle***
- ***Maintenance Free***
- ***Greater Reach***
- ***Finer Dispersion***
- ***Denser Curtain***
- ***Each Nozzle Sold Has A 100% Performance Test***

* *So Called Because of its Durability*

Rubber bumper for protection and non-slip grip. "Clicks" into straight stream or desired fog pattern. Stream can be selected by sight or touch. Floating gland type shut off. Shock absorbant shut off mechanism. Sure grip base and sturdy handle.

Over a million shut-offs WITH NO LEAK

Dura-Fog Nozzles have been thoroughly bench tested, to assure dependability. We strived for 250,000 shut-offs, actually tests have gone over a million with no leak!

PERFORMANCE DATA 1-1/2" SIZE

	STRAIGHT STREAM		30° FOG PATTERN		60° FOG PATTERN		90° FOG PATTERN	
NOZZLE PRESSURE	GPM	REACH	GPM	REACH	GPM	REACH	GPM	REACH
100 PSI	57	85′	60	40′	65	30′	72	20′
125 PSI	62	105′	65	43′	68	35′	75	22′

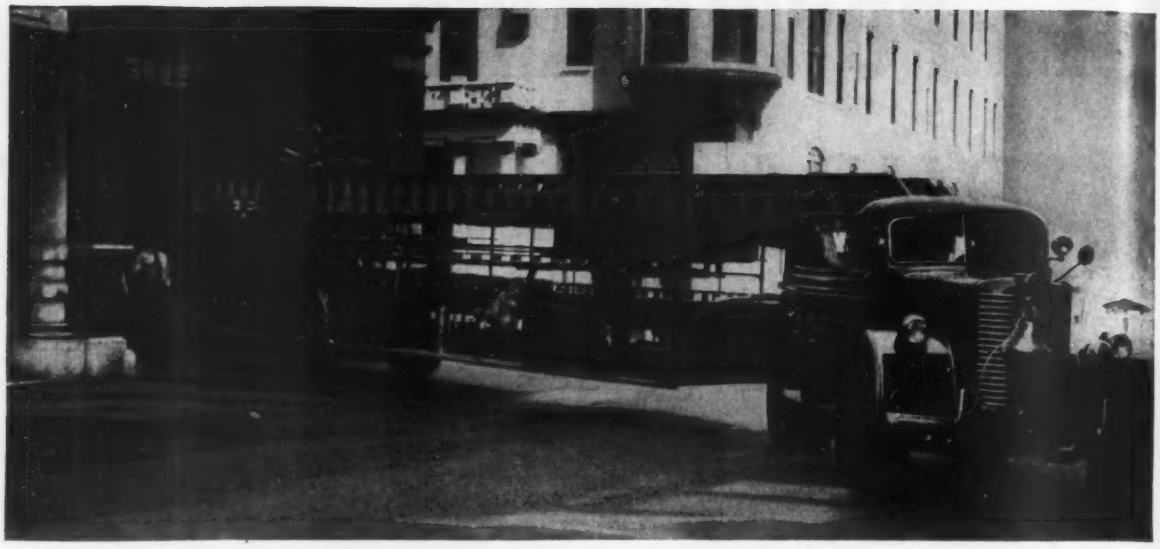
We have been manufacturing fire protection items for the past 64 years. If you do not have one, write for our catalog "A" which shows Powhatan's complete line.

REG. U.S. PAT. OFF.

POWHATAN

BRASS AND IRON WORKS

RANSON, WEST VIRGINIA



Knoxville selects General Electric Progress Line Two-Way Radio System for fire protection

Knoxville, Tennessee, selected General Electric's Progress Line two-way radio for its Fire Department because it offers highest reliability with lowest maintenance cost. High fidelity communication is assured by the controlled reluctance microphones, standard on all Progress Line radios. And only General Electric two-way radios are equipped with 6600 series pre-tested, long-life communication-type tubes.

According to James Swanner, Superintendent of Fire Alarms, solid radio contact can be maintained between his base radio station and that of the Chattanooga Fire Department—114 miles away. He explained that this contact was requested by Civil Defense authorities to tie together fire fighting facilities of the two cities in event of disaster. General Electric Communication Engineers placed the Knoxville base station atop a ridge several hundred feet above surrounding terrain, to assure meeting the CD requirement.

All of Knoxville's fire stations are tied together by the radio system. In addition, 15 engines, a Civil Defense emergency truck, ambulance, and cars of the Chief, Assistant Chief, Superintendent of Fire Alarms, two inspectors, and a mechanic are now smoothly coordinated by two-way radio. This progressive Fire Department has already demonstrated many times how General Electric two-way radio provides improved fire protection for the Knoxville metropolitan area.

* * *

Your use of two-way radio can save money for taxpayers in your city through reduced municipal fire insurance rates for cities with radio-equipped fire departments.

Dispatchers at Knoxville Fire Department Headquarters handle all telephone and two-way radio coordination. All fire station and key vehicles are coordinated via new General Electric two-way radio system.

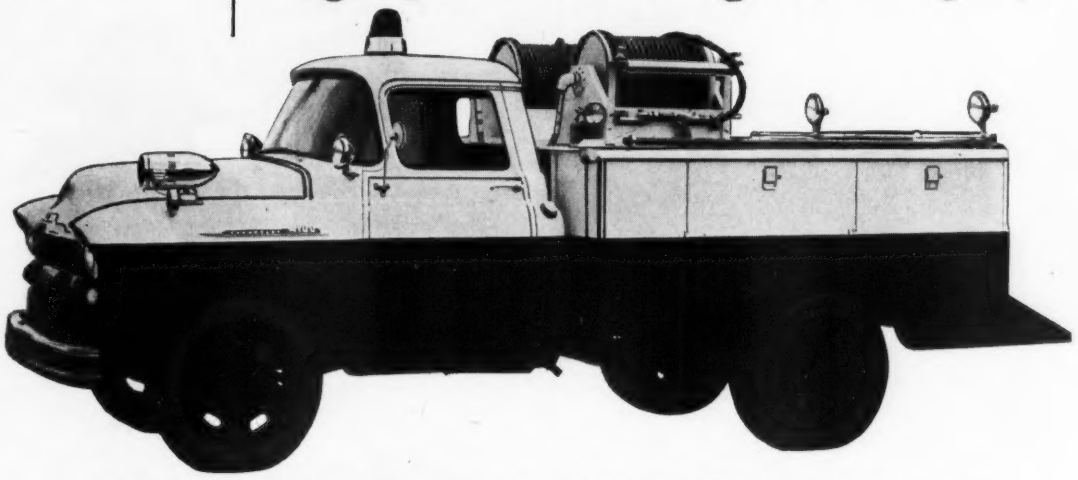
For Sales and Service...see "Radio Communication Equipment" in your yellow pages. Or, write: General Electric Co., Communication Equipment, Section C2927, Electronics Park, Syracuse, N. Y. *In Canada:* C.G.E. Electronics, 181 Landsdowne Avenue, Toronto.

Progress Is Our Most Important Product

GENERAL ELECTRIC

designed for mobility and instant action

NEW! the "LITTLE BEAN" high-pressure fog fire-fighter



Here's the compact new unit that puts two lines of John Bean High Pressure Fog into instant action — either while stationary or on the run. Built for speed, compactness and easy handling, it is ideal for the fast knockout of forest, grass and brush fires — for airport protection — for any type of fire where minutes count.

Both municipal and rural fire departments are using it with outstanding success as an economical general purpose unit. City departments find it ideally suited as a "first out" truck, particularly for still alarms. It can also be used for industrial applications.

See the "Little Bean" in action and you'll see a score of your fire fighting problems solved.

SPECIFICATIONS

HIGH PRESSURE PUMP: 60 GPM with 850 PSI at the pump; 650 PSI fog at both guns simultaneously. Automatic Relief Valve: 1000 PSI pressure gauge.

DRIVE: Transmission power take-off allows pump to be operated at full pressure with truck in motion.

TANK: 250 gallon tank, cross baffled to prevent water surge. Copper bearing 10-Gauge steel with corrosion resistant coating — six-inch filler opening — removable top for easy access to all sections of tank.

HOSE: Two 100-foot lengths of high pressure hose on each reel. Swivel connections to guns and reels. Standard suction hose* in one 30-foot length (or two 10-ft. lengths) complete with strainer.

REELS: Two drum type, spring loaded, high pressure reels, 200-ft. hose capacity each. Horizontal and vertical guide rollers for fast, easy hose pick up.

GUNS: Two patented Bean High Pressure Fog Guns with easy pattern control from fog to straight stream.

ACCESSORIES: A full range of accessory items are available to meet your requirements.

CHASSIS: Apparatus can be mounted on most standard one-ton truck chassis.

BODY: Careful tailoring and reinforced construction features produce eye appeal and rugged service. Other body features include 60 cu. ft. of weatherproof compartment space for safe stowage and full rear platform with approved non-skid tread plate.

A John Bean representative can arrange for a demonstration of the "Little Bean" Fire-Fighter in your community (a few localities excepted). Write for details.

For information on John Bean's complete line of Fire-Fighters, ask for Catalog L-1171.

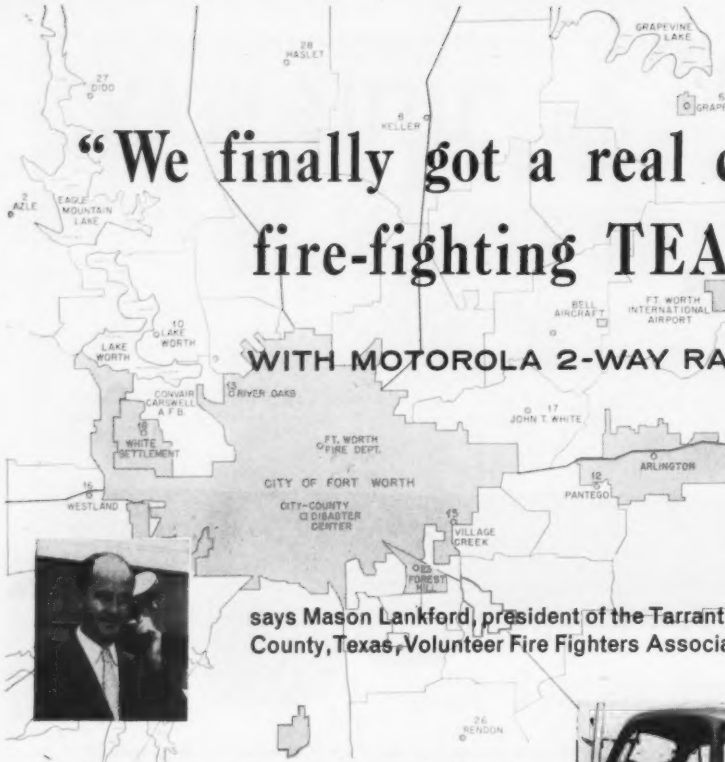
JOHN BEAN (fmc Food Machinery and Chemical Corporation)

Lansing 4, Mich. San Jose 1, Calif.

ORIGINAL HIGH-PRESSURE FOG FIRE-FIGHTERS

A PRODUCT OF FOOD MACHINERY AND CHEMICAL CORPORATION

*Approved-Type, Fitted, Hard Suction Hose Available At Slight Extra Cost.



"We finally got a real county-wide fire-fighting TEAM

WITH MOTOROLA 2-WAY RADIO"

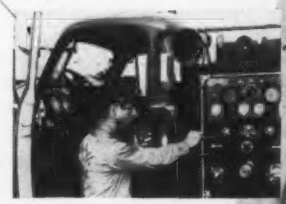
says Mason Lankford, president of the Tarrant County, Texas, Volunteer Fire Fighters Association

It took two disastrous fires near Fort Worth, Texas to prove that a small community fire department is helpless to overcome a major blaze without outside help. It proved the value of mutual aid *and* the need for proper communications between scattered volunteer departments.

So the Tarrant County Volunteer Fire Fighters Association came into being. Under Mason Lankford's aggressive leadership, the association has grown from its original 13 units to a total of 28 active departments —all welded into a closely knit team with Motorola 2-way radio. There are 34 base stations (28 department stations, and 6 for industry, armed forces and civil defense), 98 mobile units and 27 Handie-Talkie Radiophones—making the system one of the largest of its type in the nation.

Mr. Lankford says, "the prime use of our Motorola system is to help us get equipment moving faster, before the fire gets a foothold or goes out of control. But there are many other applications. For instance, Handie-Talkie portables enable fire-fighters to communicate with each other *at the fire*, wherever they are, and coordinates the work of boats in rescue and recovery operations. With Tarrant County encircled with radio equipped fire equipment, everyone in the various communities sleeps better at night"

Small communities or large cities, Motorola 2-way radio is ready to help you multiply your efficiency and give greater protection. Learn all the benefits. Write, phone or wire Motorola today.



Pump operator hears instructions over noise of pumper from weatherproof speaker mounted outside the cab.

Dual frequency base station transmitter in town of Lake Worth combines fire and police radio.

Handie-Talkie portable enables Chief A. T. Huffines to move about freely as he directs operation.

MOTOROLA

2-WAY FIRE RADIO

MOTOROLA COMMUNICATIONS & ELECTRONICS, INC
A SUBSIDIARY OF MOTOROLA, INC
4501 AUGUSTA BOULEVARD • CHICAGO 51, ILLINOIS

Motorola consistently supplies more mobile and portable radio than all others combined.
Proof of acceptance, experience and quality.
The only COMPLETE radio communications service— specialized engineering...product...customer service...parts...installation... maintenance...finance...lease.
"The best costs you less—specify Motorola."

how to handle

Three new B-85, 750 gpm pumpers recently put in service by the State of Illinois... at the Anna State Hospital in Anna . . . at the Illinois Soldiers and Sailors Home in Quincy . . . at the State Training School for Boys in St. Charles.

the demanding jobs . . .

Providing front-line fire protection for institutions located where a municipal or district fire department is not immediately available places heavy demands on apparatus performance and dependability. That's why so many institutions, like municipalities, use versatile and dependable Mack apparatus.

Mack designs and builds fire apparatus that surpasses even the most exacting standards of today's fire fighters. For instance, Mack builds its own dependable overhead valve engines that deliver top power at low r.p.m.—engines that are sure starting and capable of pumping hour after hour with ease. Special carburetors, low-pressure manifolds with sodium-cooled exhaust valves, double ignition systems, extra-capacity water pumps, rugged frames and chassis designed for maximum utility . . . these and other outstanding features, plus Mack's refusal to compromise on quality, have made Mack the first name for fire apparatus. Mack Fire Apparatus, Plainfield, New Jersey. In Canada: Mack Trucks of Canada, Ltd.

MACK

first name for

FIRE APPARATUS

4649

COMPLETE LINE OF PUMPERS 500 to 1250 GPM . . . SQUAD AND HOSE WAGONS . . . 65', 75', 85' AERIALS . . . COMBINATION LADDER TRUCKS

Just Right!

FOR COMPLETE SATISFACTION USE

WORLD FAMOUS

INDIAN FIRE PUMPS

The first cost is the last cost. No upkeep expense. No chemicals to buy. Only clear water used. That's why so many fire departments are replacing soda acid and other types of extinguishers with INDIANS. Here's a typical comment from our files:

Fire Chief S. W. Griswald of Westbrook, Conn., says: "I cannot praise INDIANS highly enough. There is nothing else will match them." Another Chief says: "They are worth their weight in gold."

NO. 80 INDIAN LEVER TYPE Pump and Handle

Send for Catalog

BOTH TYPES APPROVED BY UNDERWRITERS LABORATORIES

No. 90 INDIAN SLIDING PUMP TYPE

For all Class A fires. Fire Chiefs say: "There is Nothing Else Like INDIAN FIRE Pumps!"

D. B. SMITH & CO.

"FOR SEVENTY YEARS THE LEADERS"

406 Main Street, Utica 2, New York

Pacific Coast Branches:

Hercules Equipment & Rubber Co., Inc. San Francisco 7, Calif.

Halprin Supply Co. Los Angeles 15, Calif.

Fred E. Barnett Co. Portland, Ore.

Fred E. Barnett Co. Klamath Falls, Ore.

Mill & Mine Supply Co. Seattle 4, Wash.

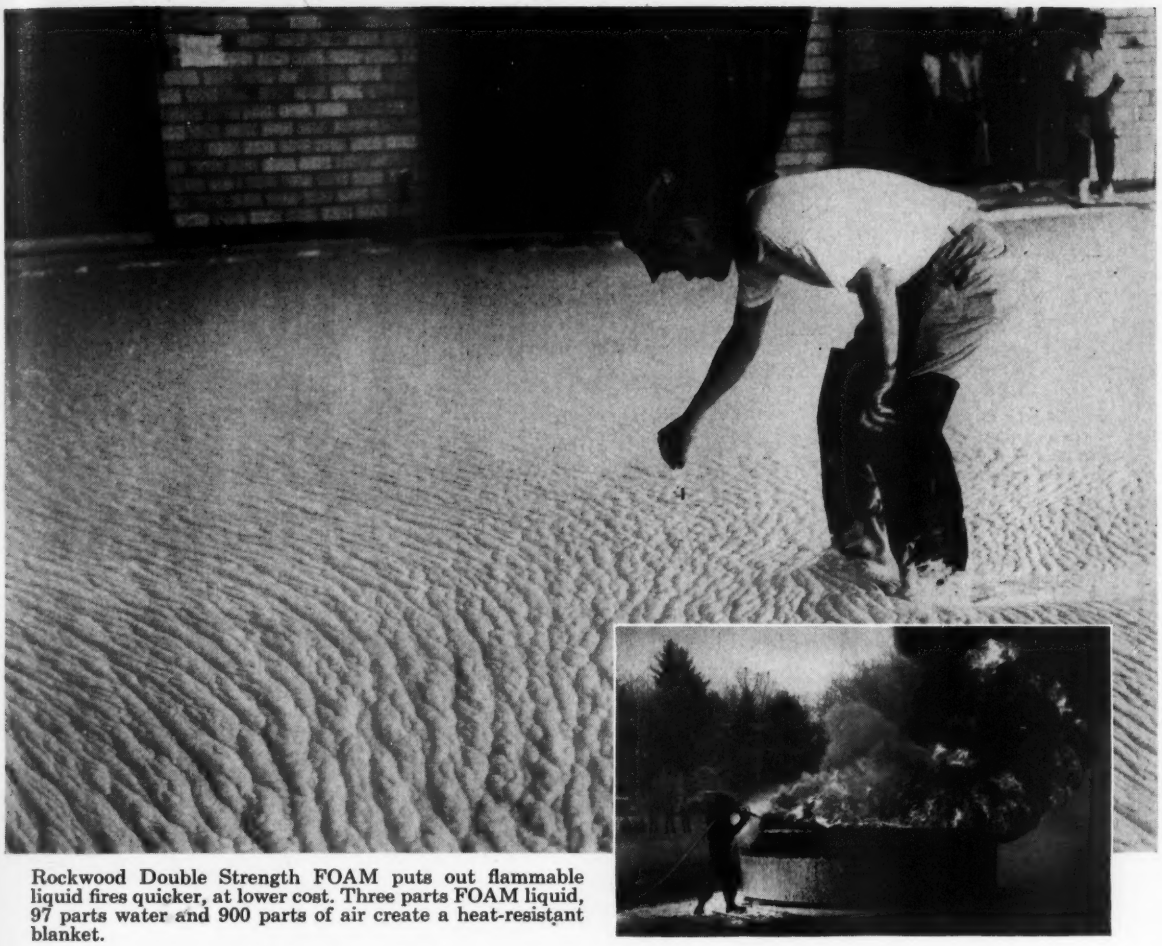
L. M. Curtis & Sons Salt Lake City, Utah

Canadian Agents:

Fleck Bros. Ltd. Vancouver, B. C., Canada

C. E. Hickey & Sons, Ltd. Hamilton, Canada

Bison Hardware Co. Toronto, Canada



Rockwood Double Strength FOAM puts out flammable liquid fires quicker, at lower cost. Three parts FOAM liquid, 97 parts water and 900 parts of air create a heat-resistant blanket.

Put out fires fast with Rockwood Double Strength FOAM... *and do it inexpensively!*

Rockwood Double Strength FOAM liquid puts out flammable liquid fires quicker at lower cost. Tenacious, fire-smothering bubbles efficiently sweep fire away, and best of all, you pay for only three parts per thousand of the actual extinguishing agent. Three parts of FOAM liquid combine with 97 parts of water and 900 parts of air. The water cost is negligible . . . the air is free . . . obviously the cost of the extinguishing agent must be low.

If you are using other agents in the form of liquids, powders or gases you pay for 100% of the extinguishing agent, against 0.3% for Rockwood Double Strength FOAM . . . and shipping and handling costs are proportionately higher. With Rockwood Double Strength FOAM you buy only the material that binds large volumes of air and water into an efficient fire extinguishing agent. This material is designed to combine with nature's most plentiful materials, air and water, to literally multiply itself hundreds of times.

Rockwood Double Strength FOAM is economical to use . . . not only for actual fire fighting but for training better Fire Fighters.

Send in the coupon below for complete information. Tested and listed by Underwriters' Laboratories, Inc. Distributors in all principal industrial areas.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

ROCKWOOD

ROCKWOOD SPRINKLER COMPANY
Portable Fire Protection Division
1549 Harlow Street
Worcester 5, Massachusetts

Please send me your illustrated booklet on Rockwood fire-fighting products.

Name.....

Title.....

Company.....

Street.....

City.....*Zone*..*State*.....

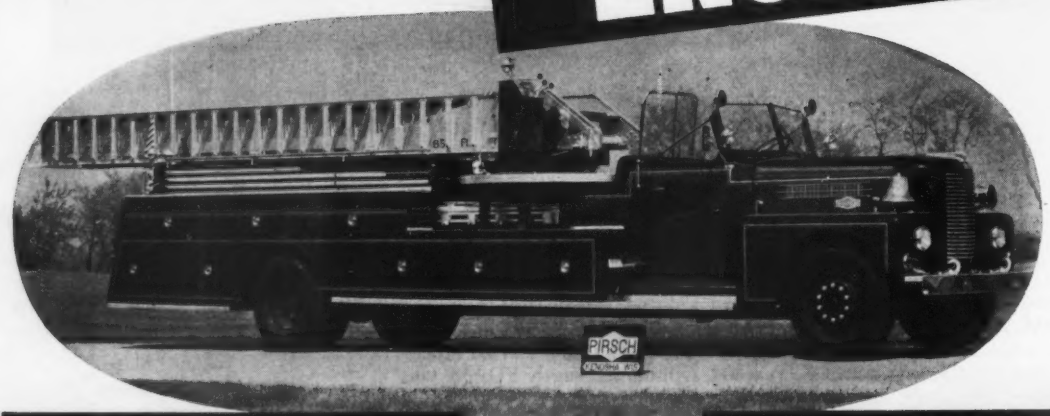
In 1908—the CHICAGO FIRE DEPT. —then as now—was up-to-the-minute with Waukesha Engine powered equipment.

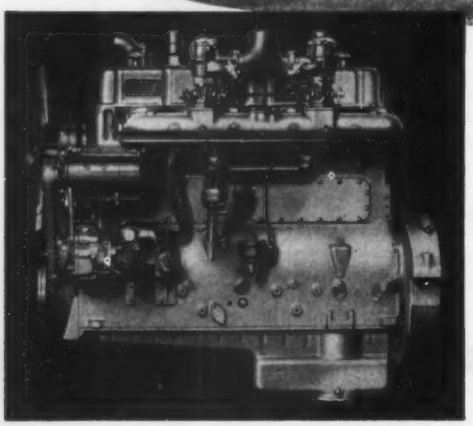
first in FIRE FIGHTING

for almost fifty years

...Waukesha Engines—*first* in fire fighting—the preferred power for the finest equipment, because specially built for *faster* fire fighting, they are reliable all the way. *Waukesha Motor Company, Waukesha, Wisconsin, New York, Tulsa, Los Angeles.*

WAUKESHA FIRE FIGHTER ENGINES





WAUKESHA FIRE FIGHTER ENGINES

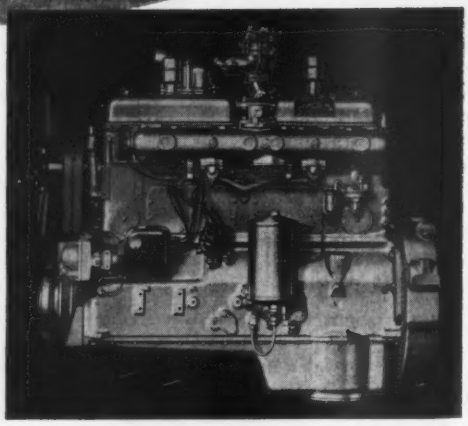
Counterbalanced or Non-Counterbalanced

◀ Typical 145 Series 779 or 817 cu. in., up to 275 hp.

Typical 140 Series 525 or 554 cu. in., up to 226 hp. ▶

Send for Bulletins

321



Underwriters' Laboratories and Factory Mutual Approved

Your next small fire could ruin your business!

One cigarette out of the 400 billion smoked every year can destroy your livelihood—your plant—unless you have effective fire-extinguishing equipment on hand.

Whatever the fire—combustible solids (Class A), flammable liquids (Class B), or electrical (Class C)—Pyrene-C-O-Two has the quality extinguisher for your needs. Call your local Pyrene-C-O-Two distributor today! He carries *a* complete line of *safety-engineered* extinguishers, systems, brass goods, hose and accessories. Or write to:

PYRENE-C-O-TWO DIVISION

THE FYR-FYTER COMPANY

Dept. FE, Newark 1, New Jersey

BRANCHES IN ATLANTA • CHICAGO • DALLAS • DETROIT • SAN FRANCISCO

Now! 3 Alco-Lite Ladders for short wheelbase Pumpers... Old or New

Shown above is an Alco-Lite Pumper Roof Ladder and 2 Section Extension Ladder nesting in brackets designed for wood ladders. The nested thickness of the two is 6⅞". This pair not only makes an ideal replacement on old Pumpers but is very desirable equipment on new Pumpers.

3 Section Pumper Extension Ladder

The newest addition to the Alco-Lite Pumper series is a 3 Section Pumper Extension Ladder which is made in 30' and 35' models. Only 7" thick, the 3 PEL will nest by itself in brackets found on most Pumpers. On new Pumpers, the 3 PEL can be specified to nest with an Alco-Lite Pumper Roof Ladder. The 3 Section Pumper Extension Ladder has a rope and cable arrangement which allows the ladder sections to extend simultaneously. It is also equipped with spring loaded locks which operate automatically at any desired point.

Always specify Alco-Lite Aluminum Ladders

Alco-Lite Pumper Ladders are stronger and easier to handle because they are made of high tensile strength, industrial, aluminum alloy. Their deeply grooved, 1¼", rungs are permanently attached to the extra heavy gauge, double channel, side rails with expansion bushing construction. Alco-Lite Pumper Roof Ladders feature, in addition, extremely strong, folding steel hooks.

original manufacturer of aluminum ladders

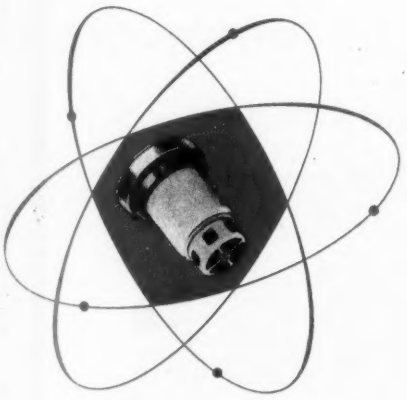
ALCO-LITE

Aluminum Ladder Company

WORTHINGTON PENNSYLVANIA

Nuclear energy takes over the fire watch...

"Give us those FIVE PRECIOUS MINUTES!"



PYR-A-LARM A few brief minutes and a microscopic spark can ignite fresh fuel and become a dangerous, destructive fire. Fire officers know this but are powerless to act until the alarm is given.

Nuclear research now provides the solution to saving those vital minutes. PYR-A-LARM, the nuclear energized pre-detection system reacts to the invisible products of combustion—signals the alarm long before conventional thermal devices can function.

Each PYR-A-LARM detector head contains an outer detecting chamber, an inner reference chamber and a cold cathode tube. The air in both chambers is made conductive by special radio-active foils. Combustion products entering the outer chamber upset the electrical balance between the two chambers, triggering the cold cathode tube. The tube relays the signal to control cabinets which actuate audible and visible alarms, release extinguisher systems, shut down equipment, and perform other functions. *Approved by Underwriters Laboratories Inc. and Factory Mutual Laboratories.*

PyroTronics
A DIVISION OF BAKER INDUSTRIES, INC.

AMONG ORGANIZATIONS WHICH RELY ON PYR-A-LARM PROTECTION ARE:

Douglas Aircraft Co.
Convair Div., General Dynamics Corp.
New York Transit Authority
Southern Railway
Tung Sol Electric, Inc.
U. S. Bureau of Standards
U. S. Department of the Navy
Westinghouse Electric Corp.

PYROTRONICS, Post Office Box 390, Newark, N. J. 2-57

☐ Kindly send literature describing PYR-A-LARM.

☐ Please contact me to arrange a demonstration in my office.

NAME.....

NAME OF PLANT.....

ADDRESS.....

CITY.....STATE.....

Clifford B. Hannay & Son, Inc.

TELEPHONE 2811

Manufacturers

HANNAY HOSE REELS

WESTERLO, N.Y.

To All Firefighters:

If you were asked to name a famous fire hose reel, we believe your first reply would be, "Hannay" Isn't that so?

There are many reasons why Hannay Hose Reels are so well and favorably known and, here again, we feel sure you could tell why. Their ruggedness and dependability would probably head the list. The service and convenience features such as their heavy duty motors, their leak proof swing joints, their tru-circle drums and quiet positive chain and sprocket drives would also be high on your list.

You will say then, "Why are you telling us this? We know Hannay Reels are what we want on our engines".

Just this. The only way you can get all the dependability and features Hannay Reels give, is to be sure you specify and get genuine Hannay Fire Hose Reels.

You'll be glad you did.

Sincerely,

CLIFFORD B. HANNAY & SON, Inc.

Dwight C. Hannay

Dwight C. Hannay

MEMBER

Sustaining Member

HANNAY

JOIN THE I.A.F.C.

© 1957 C.B.H.&S. INC.

Another WARD LaFRANCE for Wycombe, Pa.

Model 1120T Semi-cab with new Waterous Electro-Matic CM-1000 G.P.M. pump. The second Ward LaFrance for Lingohocken Fire Company, Wycombe, Pa.

Here are two more of the many new 1957 models now being delivered. Repeat orders such as these are tangible evidence of the dependability of Ward LaFrance fire protection. These communities have experienced the excellent fire service of Ward LaFrance specially designed cabs and chassis with unusual safety features. Ward LaFrance engineers constantly strive for better fire fighting apparatus proudly represented by these new 1957 models.

for Barrington, Ill.

Model 185T with new Waterous Electro-Matic CM-750 G.P.M. pump. This is the second pumper delivered to Barrington, Ill. in six months.

WARD LA FRANCE
TRUCK CORPORATION

Fire apparatus manufacturers for over 39 years

GENERAL OFFICE & FACTORY: Grand Central Avenue, Elmira, N.Y. Tel. 3-5631 DIRECT FACTORY BRANCH: 139th Street & Bruckner Blvd., New York 54, N.Y. Tel.. CYpress 2-3300 EXPORT: Ward LaFrance International, Inc., Elmira, N.Y., U.S.A. Cable Address: "Wardtruck"

"HE'S JUST STUBBORN, HE'S TRYING TO OUTLAST THAT HEWITT-ROBINS 'DACRON† ' FILLER, THE LIGHTWEIGHT, EASY HANDLING HOSE!"

Hewitt-Robins manufactures all types of Municipal and Industrial Fire Hose.

†Du Pont T. M.

HEWITT-ROBINS • STAMFORD, CONNECTICUT

Hewitt Rubber Division, 240 Kensington Avenue, Buffalo 5, New York

City Fire Insurance Rates Reduced!

Bakersfield Now Among Top Cities

FROM THE BAKERSFIELD CALIFORNIAN—Chief Phil C. Pifer and members of his department are proud men today because their efficiency has placed Bakersfield among the topmost cities in the nation in the ratings of fire underwriters and—what is most important to home owners—will result in an estimated annual saving of $100,000 in fire insurance premiums.

The announcement which places Bakersfield's fire department among the very best in the nation was made public at a celebration dinner given in the Central Fire Station by members of the department and their wives.

The Bakersfield fire department has been advanced to Class 2—a high honor enjoyed by only four other cities in the West—Seattle, Portland, San Francisco and Modesto. So far as was known, these are the only cities west of the Mississippi in this select group.

The underwriters attending the dinner were conservative in their statements. They were positive on one point, however—Bakersfield residential fire insurance rates will be reduced an average of 10 per cent.

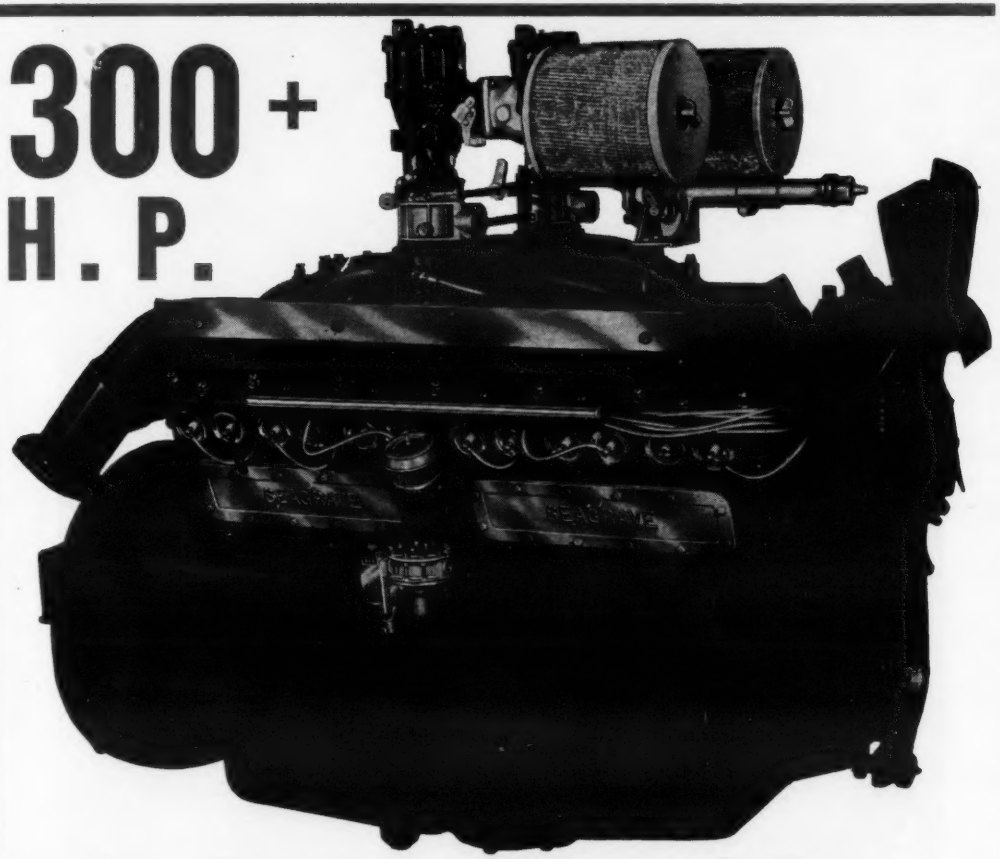
The estimate that the upgrading of the city's fire department and various residential structures will result in a saving to policyholders of $100,000 a year was made by City Manager Leland Gunn.

New construction, the razing of older structures, and improvement of others, all have had a part in pushing the city upward into a more favorable fire insurance level.

Probably the greatest improvement, however, has been in the efficiency of the fire department, a process that began early in the 1920s.

Mayor Manuel Carnakis, master of ceremonies, introduced the guests and speakers.

300 + H. P.



Bakersfield-Another Seagrave Protected City . . .

A LARGE PERCENTAGE OF BAKERSFIELD FIRE APPARATUS IS SEAGRAVE V-12—300+ H. P.

SEAGRAVE—THE GREATEST NAME IN FIRE APPARATUS Columbus 7, Ohio.

Protect your plant with the same Ansul extinguishers that guard this big steel mill

Well-planned safety and fire prevention programs are doing their share to protect lives, property and production schedules at the Great Lakes Corporation, Detroit, Mich., division of National Steel Corporation. Ansul fire extinguishers are playing a part in this successful program.

Your safety program deserves the best in fire protection. Remember, fire doesn't give you a second chance. Here are three big reasons why Ansul dry chemical extinguishers can take the worry out of your fire protection program and help you maintain a safety record to be proud of:

First. Ansul extinguishers are *dependable.* They are always ready for action, even under severe exposure conditions. Weather-tight construction assures this dependability. *Second.* Ansul extinguishers are *effective.* Patented nozzles deliver either a straight or fan stream, depending upon the hazard. This is an Ansul exclusive for more effective fire control. *Third.* Ansul extinguishers are backed by a *five-year warranty.* This is the best way we know of saying that Ansul extinguishers are the finest of their kind made anywhere. No other manufacturer offers this important warranty.

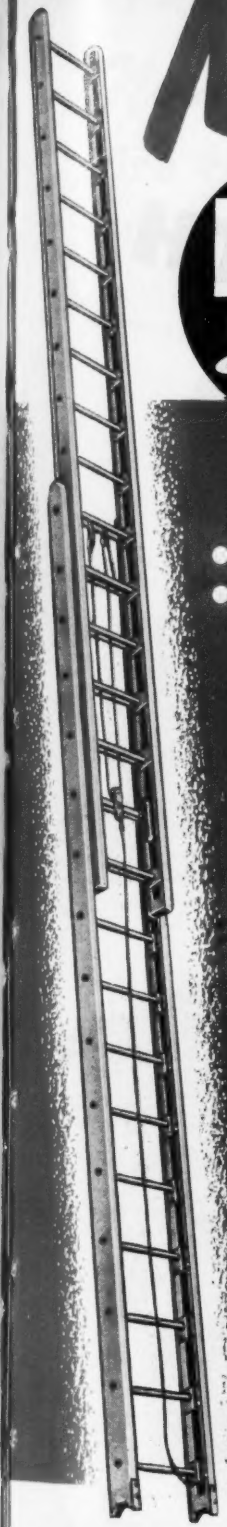
Get in touch with your local ANSUL MAN through the yellow pages of your phone directory, or write direct to ANSUL CHEMICAL COMPANY, DEPT. FE-2, MARINETTE, WISCONSIN.

ANSUL

New 1000-A SERIES

DUO Safety

ALUMINUM FIRE LADDER



***with Exclusive* DUO-SAFETY TONGUE and GROOVE CONSTRUCTION**

- **NO HOOKS or GUIDES to injure hands!**
- **NO JACK-KNIFING!**

Now, Duo-Safety's exclusive tongue and groove arrangement is extended to a great new ladder line... the new 1000-A Series. This outstanding construction design holds the sections together absolutely firmly and rigidly, with no obstructions of any kind!... requires a minimum of banking height ...is more compact with minimum weight. It's the greatest development in fire ladder construction in years and years!

Other Features:

(A) EXTRA STRONG
Light Weight Channel Construction

(B) RUNGS ELECTRICALLY WELDED
to Outside Channel

(C) RUNGS INTERNALLY EXPANDED
on Both Sides of Rung Plate

(D) NON-SHEARING RIVETS

. . . and, of course, all non-aluminum metal parts are plated for longer, non-rusting service.

DUO Safety

The 1000-A SERIES Offers Another Choice of an ALUMINUM LADDER for PUMPER USE

Series 1000-A has the identical construction, in lighter weight, as the Duo-Safety 900-A Series, and is a substitute for the famous 700-A Series. This sensational new ladder is available in 2 (Series 1000-A) and 3 (Series 1025-A) section ladders, in lengths up to 30 feet, and expands the Duo-Safety line of aluminum ladders for pumper use to offer a ladder for every requirement.

DUO-SAFETY LADDER CORP. OSHKOSH, WIS., U.S.A.

In Canada: La France Fire Engine and Foamite, Ltd., Toronto

for lighter weight and GREATER STRENGTH

SPECIFY

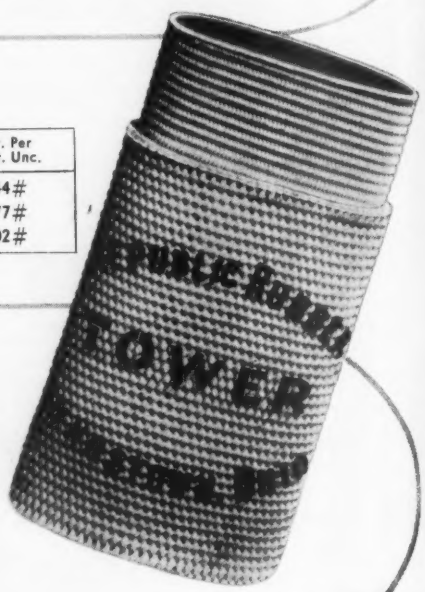
REPUBLIC'S DACRON FILLER
MUNICIPAL FIRE HOSE

Champion 600# Test Pressure

Size	O.D.	Test Pressure	Wt. Per C Ft. Unc.
1½"	2 "	600#	45#
2½"	3 1/16"	600#	79#
3 "	3 5/8"	600#	107#

Tower 400# Test Pressure

Size	O.D.	Test Pressure	Wt. Per C Ft. Unc.
1½"	1 31/32"	400#	44#
2½"	3 3/4"	400#	77#
3 "	3 13/32"	400#	102#



In addition to these Dacron Filler types, Republic makes two Cotton Filler, Double Jacket types: K-122 Chariot and K-127 Target, both for 400# Test Pressure.

Republic Municipal Fire Hose is Provar Processed as standard construction for mildew prevention and is flat-cured, permitting easy handling and storage of more footage. Send us your order or request for quotation.

"Quality Hose Builders for Over 50 Years"

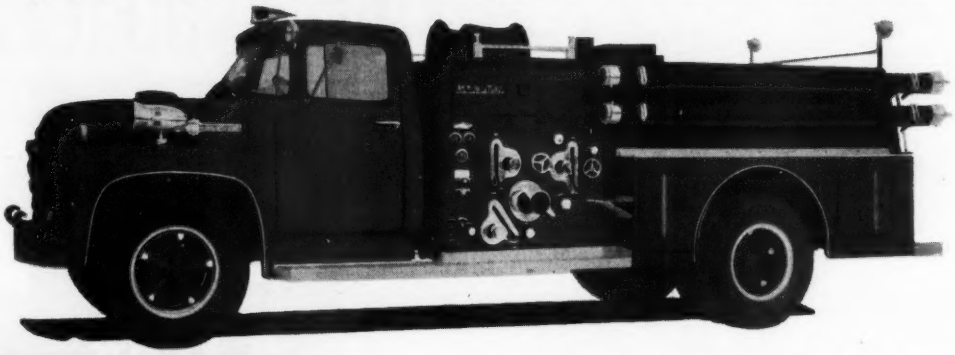
REPUBLIC RUBBER DIVISION

LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO

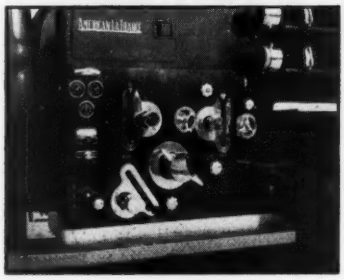
INDUSTRIAL RUBBER PRODUCTS

Now AMERICAN LAFRANCE "Series 800"

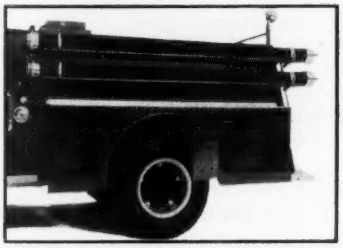
Fire Fighting Equipment . . . on your preferred Commercial Chassis



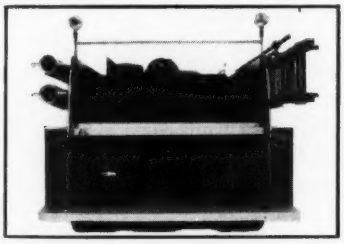
750 g.p.m. Class A TWINFLOW Pump. 500 gallon water tank. 2½" gated suction inlet is optional extra.



Pump controls are accessible and labeled for quick operation.



Four large compartments, two each side, for any type mask or resuscitator.



Two rear compartments will house generator and portable pump. Water tank shown is 500 gal. capacity with hose bed divider for 1½ inch hose.

The same important features and quality construction as in AMERICAN LAFRANCE custom-built fire engines . . .

Hose body increased in width to 73 inches for more hose capacity. 1900 feet, 2½ inch hose with 300 gallon water tank, or 1600 feet of 2½ inch hose with 500 gallon water tank.

Water tanks are available in 300 gal. (std.), 500 gal., 750 gal., or 1000 gal. capacity at your option with selected chassis of proper g.v.w. rating. All have removable covers; deep outlet sump; large screened fill opening; large vent for hydrant line filling; full Zincilate treatment for protection against corrosion.

The TWINFLOW pump is parallel-series, 2-stage centrifugal with Class A, N.B.F.U. rating for 500 g.p.m. or 750 g.p.m. Bronze impellers; bronze seal rings; stainless steel, hardened, impeller shaft. Positive operating transfer valve; cooling for pump transmission; dependable priming; relief valve for pressure control.

There are nine equipment compartments; seven are of enclosed type for weather protection. Equipment storage space for your portable generator, portable pump, gas masks, radio, tools, and other equipment.

• *Ask our representative for more information about all the important features of these NEW Fire Engines.*

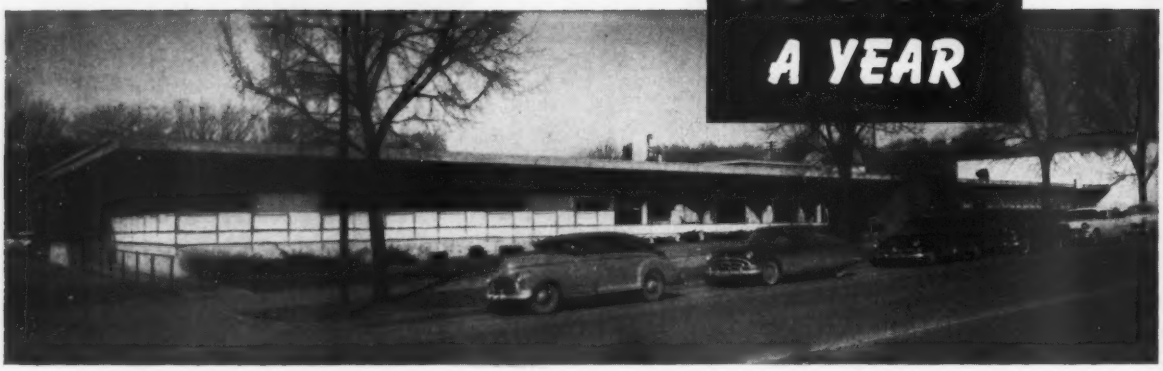
AMERICAN LAFRANCE CORPORATION
ELMIRA, NEW YORK, U. S. A.

LAFRANCE FIRE ENGINE and FOAMITE LIMITED
TORONTO, 9, ONTARIO, CANADA

Betty Rose COATS AND SUITS

STERN-SLEGMAN-PRINS COMPANY, KANSAS CITY

protects its property *Automatically*.. gets better FIRE and BURGLARY protection and SAVES $5000 A YEAR



We use ADT Automatic Protection Services and feel that they safeguard our property more completely than other methods, and at lower cost. Estimated savings are $5,000 a year.

FERDINAND STERN
President

Fire or burglary could seriously affect the business of Stern-Slegman-Prins Company. The uninterrupted manufacture and prompt delivery of Betty Rose coats and suits — at the height of the fashion season—is vital to the company's successful operation.

To obtain the best protection available against such hazards, the management chose ADT Automatic Protection Services, consisting of a combination of Central Station Sprinkler Supervisory and Waterflow Alarm, Burglar Alarm and Heating Supervisory Services.

Like Mr. Stern, thousands of business executives from coast to coast know that ADT *Automatic* Protection Services give greater security for property, profits and employees' jobs than is otherwise possible, and *at less expense.*

May we show you what ADT can do for you?

Whether your premises are large or small, old or new, there is an ADT Protection Service to meet your needs. An ADT specialist will show you how combinations of automatic services can guard your property. Call our local sales office if we are listed in your phone book; or write to our Executive Offices.

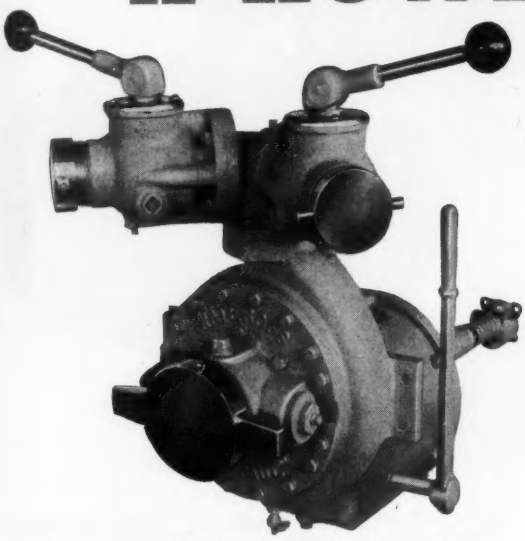
ADT

Controlled Companies of
AMERICAN DISTRICT TELEGRAPH COMPANY
A NATIONWIDE ORGANIZATION
Executive Office:
155 Sixth Ave., New York 13, N. Y.

A HOWE PUMPER

gets the job done...

FASTER



Capacity is 500 GPM or 600 GPM. Impeller shaft bearings sealed from water by self-adjusting, corrosion resistant seal. Fully ball bearing equipped.

This HOWE pumper, with front mounted pump, has far greater flexibility. The pump can be operated while the truck moves. This is especially important in fighting grass fires. In addition, there is more tank room . . . for rural and suburban use. The single-stage, centrifugal Waterous pump has helical, constant mesh gears for quiet operation, long life. HOWE provides the proper gear ratio to operate at moderate gear speeds, eliminating need for auxiliary cooling of the gear case. The rugged single plate, dry, automotive type clutch may be engaged or disengaged at any speed. Independently operated ball type 2½" discharge valves are locked in position, operate at any pressure. Phone, write or wire HOWE *before* YOU buy.

HOWE

Member FAM (Fire Apparatus Manufacturers Association)

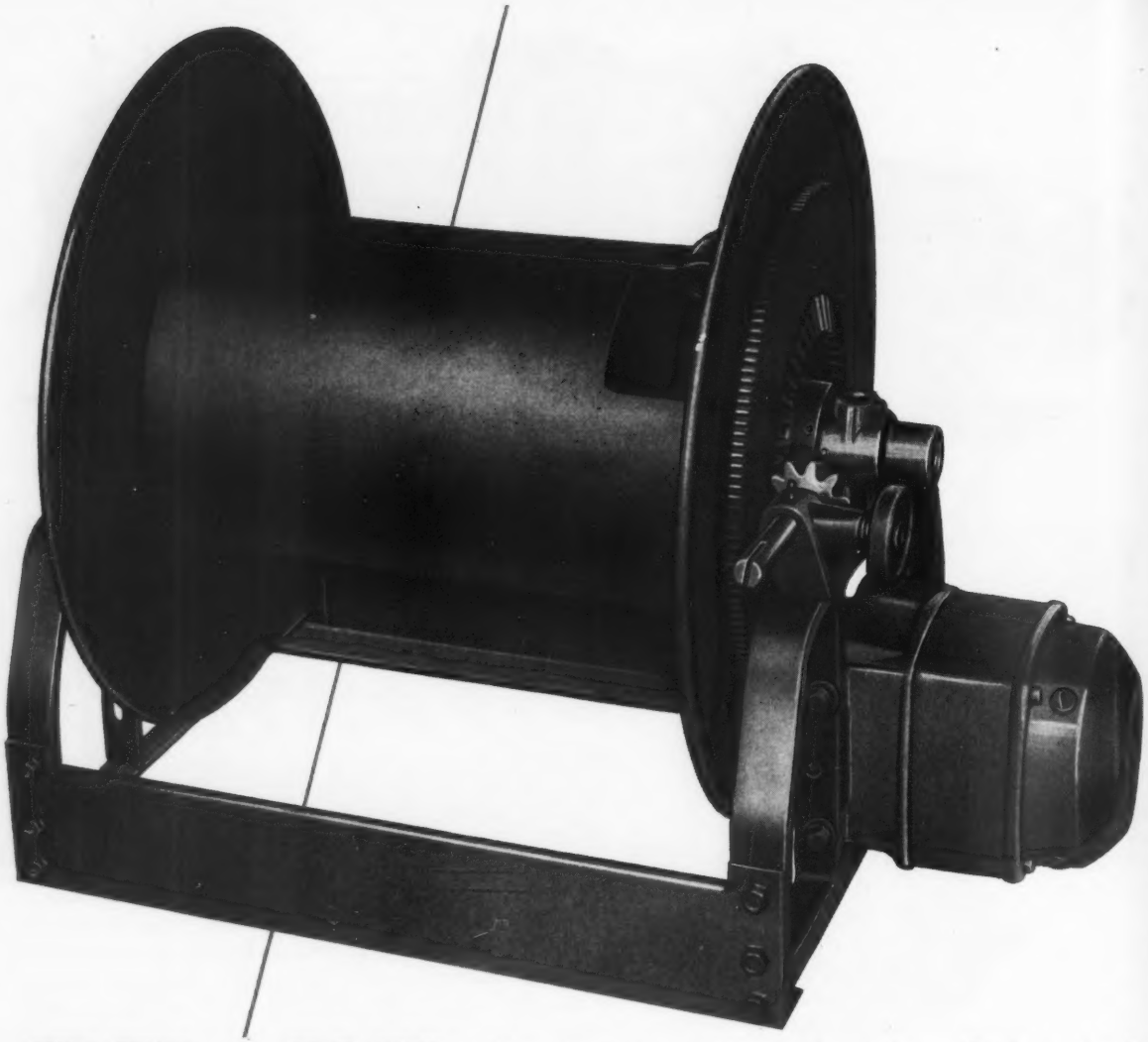
HOWE

"dependable fire apparatus since 1872"

FIRE APPARATUS COMPANY

Dept. FE-27, 1405 W 22nd St., Anderson, Indiana, U.S.A.

BELOW: PUMPER IN ACTION . . . ROLLING AND PUMPING



THANK YOU

Your increasing preference for Ardmore Reels is deeply gratifying to us. For we spare no effort to build into these better reels the swift, smooth, sure performance modern fire-fighting demands.

Ardmore Fire-Fighting Reels are now available in explosion-proof, starter-motor, and hand-wind models...single or dual ...with or without hose rollers. All models are competitively priced. Complete catalog on request. Write, wire or phone:

ardmore products

Division of Amco Corporation

NORTHBROOK
ILLINOIS
CRESTWOOD 2-5000

Notifier - THE INDUSTRY'S LEADER

AN ENTIRELY NEW CONCEPT

introducing PHON-O-MATIC

The first fully automatic dual-purpose emergency communication system.*

Designed for municipal use, national security, and plant protection.

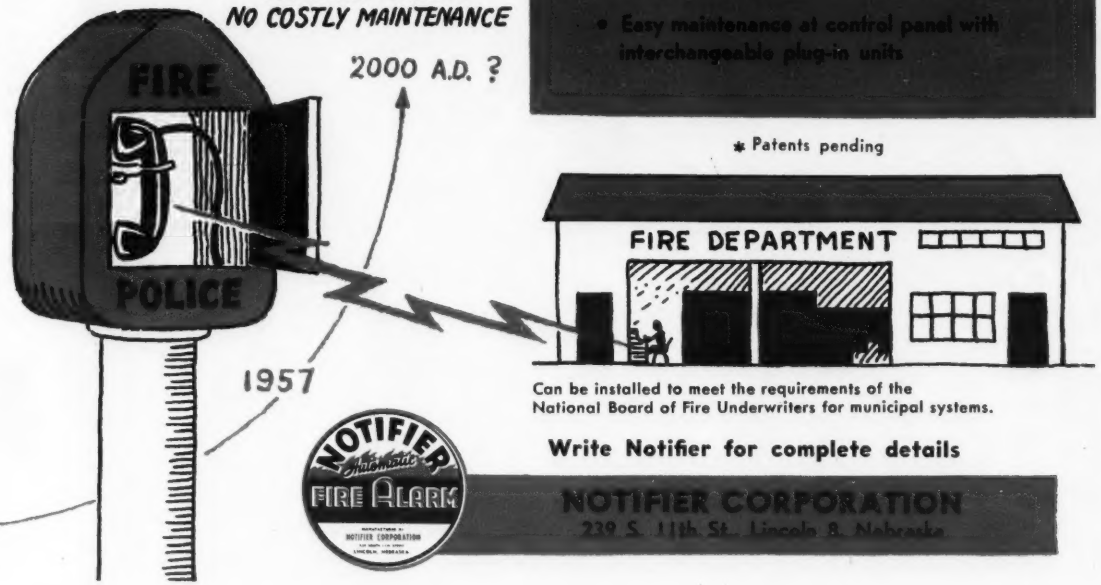
- Completely reliable fire and police communication
- Utilizes both audio and visual signals —code and voice
- Infinite number of non-interfering signals can be transmitted simultaneously
- Heart of control unit located in console at fire or security headquarters
- Easy maintenance at control panel with interchangeable plug-in units

* Patents pending

BREAKS THE CODE-WHEEL BARRIER

WITH ITS NEW MUNICIPAL SYSTEM!

NO CODE WHEELS
NO COSTLY MAINTENANCE



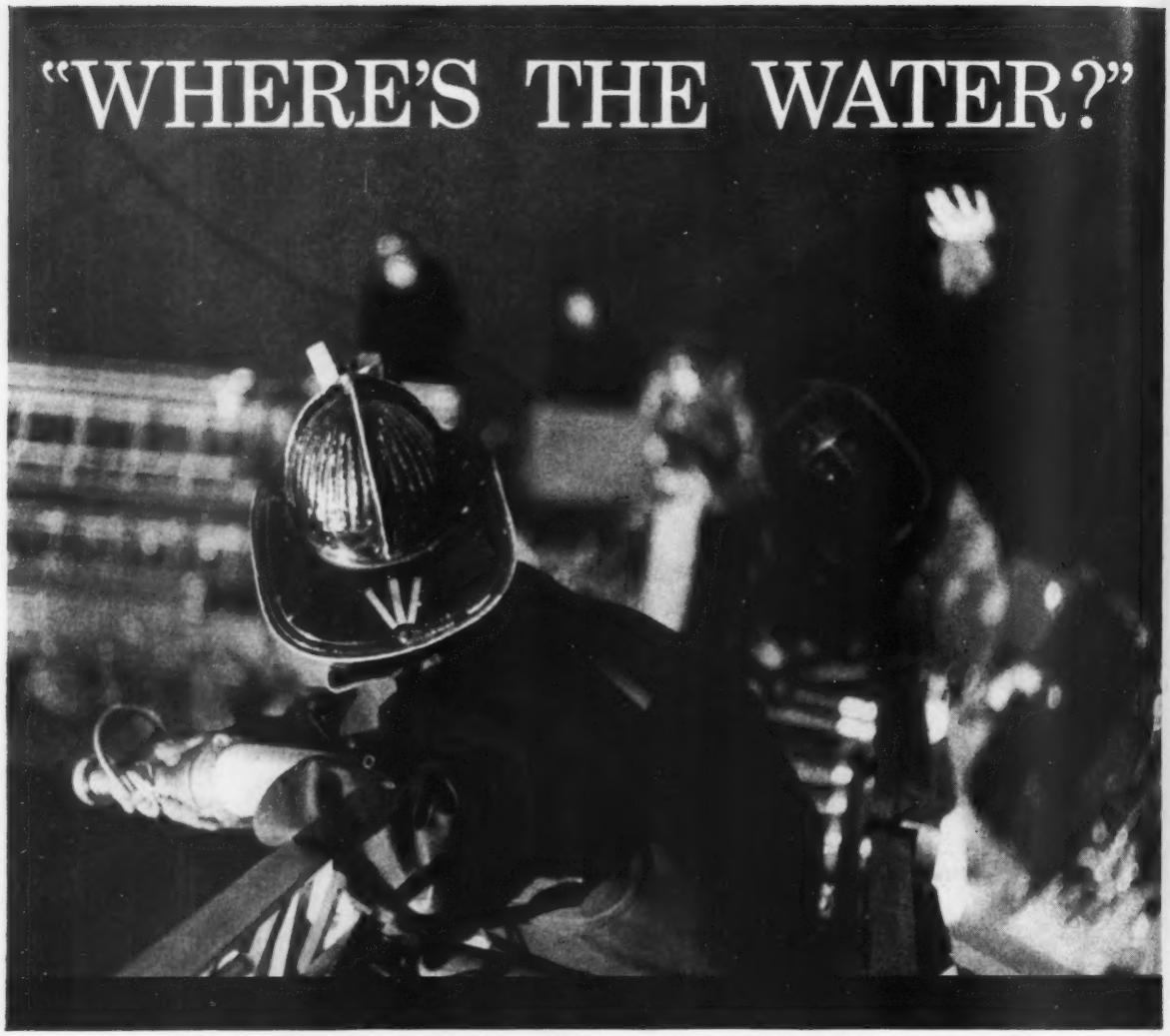
Can be installed to meet the requirements of the National Board of Fire Underwriters for municipal systems.

Write Notifier for complete details

NOTIFIER FIRE ALARM

NOTIFIER CORPORATION
239 S. 11th St., Lincoln 8, Nebraska

"WHERE'S THE WATER?"



safe, sure, fast under all conditions . . new Waterous *Electro-Matic pump

Now, power controls meet every pumping requirement with speed and accuracy you can always count on. The Electro-Matic is the *first* fire pump to offer power operation for all major pump controls—shift, primer, discharge and transfer valves. This means less chance for error and fast, sure action. For example, Electro-Matic's Transfer Valve is controlled by a simple "Volume", "Pressure" switch. Changing operation is simple, swift and smooth, without pressure "shock" so dangerous to firemen. Electro-Matic also features a new design that reduces weight, takes much less space and offers extreme mounting flexibility. Waterways and impellers have been newly engineered for even greater performance under a wider range of conditions. All this in addition to famous Waterous dependability. Send for FREE Booklet that gives complete details.

Pat. Pend.

WATEROUS *Electro-Matic*

Dept. 302, 80 Fillmore Ave., St. Paul, Minn.

*Registration applied for.

Electro-Matic Model CM, 750 GPM, Class A. 500, 1000 GPM, 2 or 3-stage models available.

THE MAN BEHIND YOUR *Fyr-Fyter* EQUIPMENT

SERVICE IN DEPTH . . . that's the assurance you get with Fyr-Fyter extinguishers and accessory equipment. With Fyr-Fyter, service *begins* with the sale . . . and Fyr-Fyter keeps on serving you, no matter what your problem — municipal, commercial or industrial.

Fyr-Fyter has the largest *professional* sales and service organization in the industry, men located in every state and Canada. They are well-trained specialists. . . know fire-fighting problems thoroughly . . . can recommend Fyr-Fyter equipment best designed for your needs.

Choose from the industry's most complete line — 1076 items from a single source: Laboratory approved portable fire extinguishers, fire hose, nozzles and other brass goods, pumps, clothing, ladders, warning and signal devices, first aid kits, masks and breathing apparatus. Place one order, check one shipment, pay one bill!

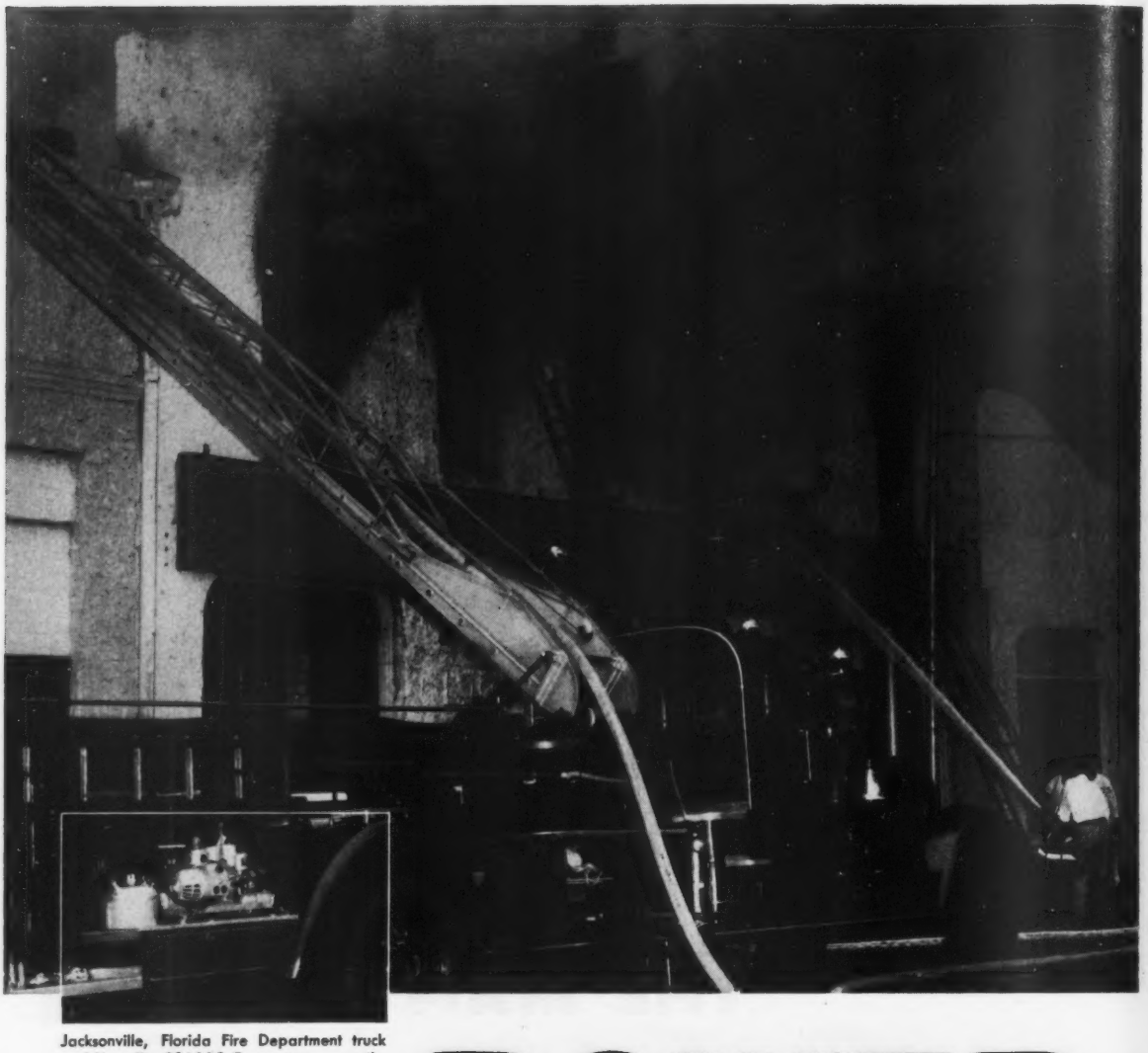
Most important, *you get service* . . . service that extends from point of sale on, *including hydrostatic testing which is now made mandatory by most municipal fire codes;* and CO^2 recharging on any make of extinguisher. Your Fyr-Fyter sales representative knows what *service in depth* means . . . why not see him today, or write us for complete information now!

Fyr-Fyter

DIVISION OF [illegible] COMPANY

221 CRANE STREET, DAYTON 1, OHIO

Branches: New York, Boston, Philadelphia, Chicago, Atlanta, Dallas, San Francisco, Los Angeles, Portland, Seattle



Jacksonville, Florida Fire Department truck and Homelite 23A115 Generator — *on the job* — at a recent fire in Jacksonville.

Instant POWER that can be carried anywhere!

Fire Departments throughout the country use Homelite Generators . . . and it's easy to see why. Lightweight Homelite Generators feature constant voltage control, generous overload capacity, proven dependability . . . and they're easy to carry anywhere to provide power whenever it is needed — quickly, effectively, economically.

For example, the photograph above shows a Homelite Model 23A115 Generator — ready for action — on a Jacksonville, Florida Fire Department truck. This 1500 watt, gasoline-engine-driven unit provides 115 volt, 60 cycle, alternating current. It starts fast in any weather . . . supplying electric current identical to normal house current — perfect for emergency stand-by use, operating electric tools and floodlighting fire scenes at night.

If you are not already using a lightweight, dependable, Homelite Generator — get in touch with the nearest Homelite representative. There's a Homelite Carryable Generator for every power requirement . . . in all standard voltages . . . capacities up to 5000 watts.

Manufacturers of CARRYABLE PUMPS, GENERATORS, BLOWERS AND CHAIN SAWS

HOMELITE

A DIVISION OF TEXTRON INC.
302 RIVERDALE AVENUE
PORT CHESTER, NEW YORK

There is A Difference!

CHECK ✓

Weight distribution
Pump-engine balance

CHECK ✓

Paint finish
Sheet metal construction

MAXIM EQUIPMENTS

for Commercial Chassis

MAXIM MOTOR COMPANY

Middleboro, Mass.

This is the type of fire that is

KILLED FAST BY

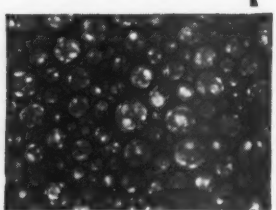
Nicerol

Foam Blanket— AND WILL STAY DEAD

A dense blanket of adhesive, cohesive foam which actually follows the fire, stifles it, outlasts it and prevents flash-back — that's Nicerol, most widely used foam compound in the world.

Nicerol, with pH 6.8 to 7.3, ensures freedom from corrosion in equipment and storage drums. It does not form sludge. 3 gallons of Nicerol NLXX (3%) Foam Liquid with 100 gallons of water, fresh or salt, forms 1,000 gallons of foam.

It can cost you nothing to test Nicerol this way. Write the one word SAMPLE on your official stationery and we will send you, freight pre-paid anywhere in the U.S.A. or Canada, a 5 gallon can of Nicerol NLXX (3%) for $20 C.O.D. (or please enclose draft). The $20 cost of this sample will be deducted from your first 100 gallon or larger order for Nicerol.

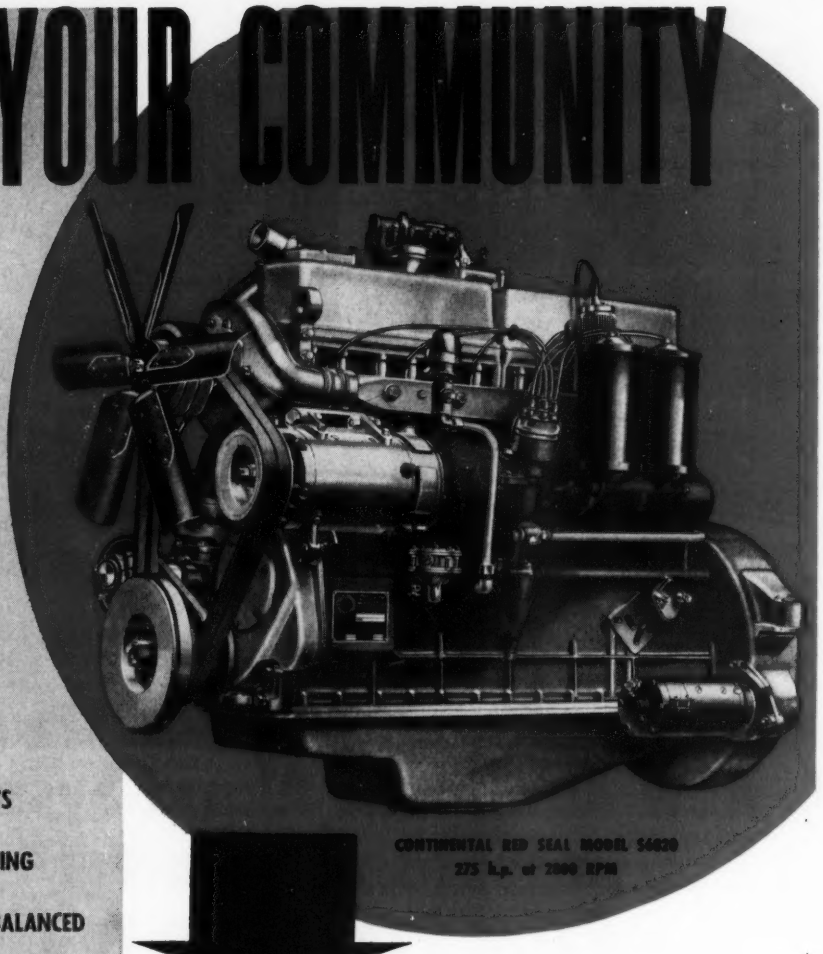


Phot micrograph X30, showing closely-knit bubble blanket of Nicerol foam, strongly cohesive, adhesive, outlasting the fire.

Full technical and commercial details available from:—

GEORGE REYNOLDS & ASSOCIATES, P.O. BOX 395, THORNWOOD, NEW YORK.
THE GENERAL DETROIT CORP., P.O. BOX 263, DETROIT 32, MICHIGAN.
THE GENERAL PACIFIC CORP., 8740 WEST WASHINGTON BLVD., CULVER CITY, CAL.

DEFEND YOUR COMMUNITY



ONLY IN CONTINENTAL RED SEAL WILL YOU FIND ALL THIS:

- FULL-LENGTH WATER JACKETS
- PATENTED INDIVIDUAL PORTING
- TOCCO-HARDENED COUNTERBALANCED CRANKSHAFT
- ALLOY STEEL VALVE SEAT INSERTS
- LEAKPROOF WATER PUMP
- PATENTED OIL AND DUST SEALS
- POSITIVE ROTATION EXHAUST VALVES

1955 WINNER NATIONAL SAFETY COUNCIL PUBLIC INTEREST Award

—with Equipment Using CONTINENTAL POWER EXCLUSIVELY

Fire apparatus is subjected to the sort of usage which underscores the need for extra care in its choice. Here, as in any field where round-the-clock reliability is a must, it's wise to standardize on a leading make—a make that features Continental Red Seal power. Red Seals are the product of more than a half-century of specialized experience. Every model is engineered expressly for its work . . . and backed by service and genuine Red Seal parts throughout the globe.

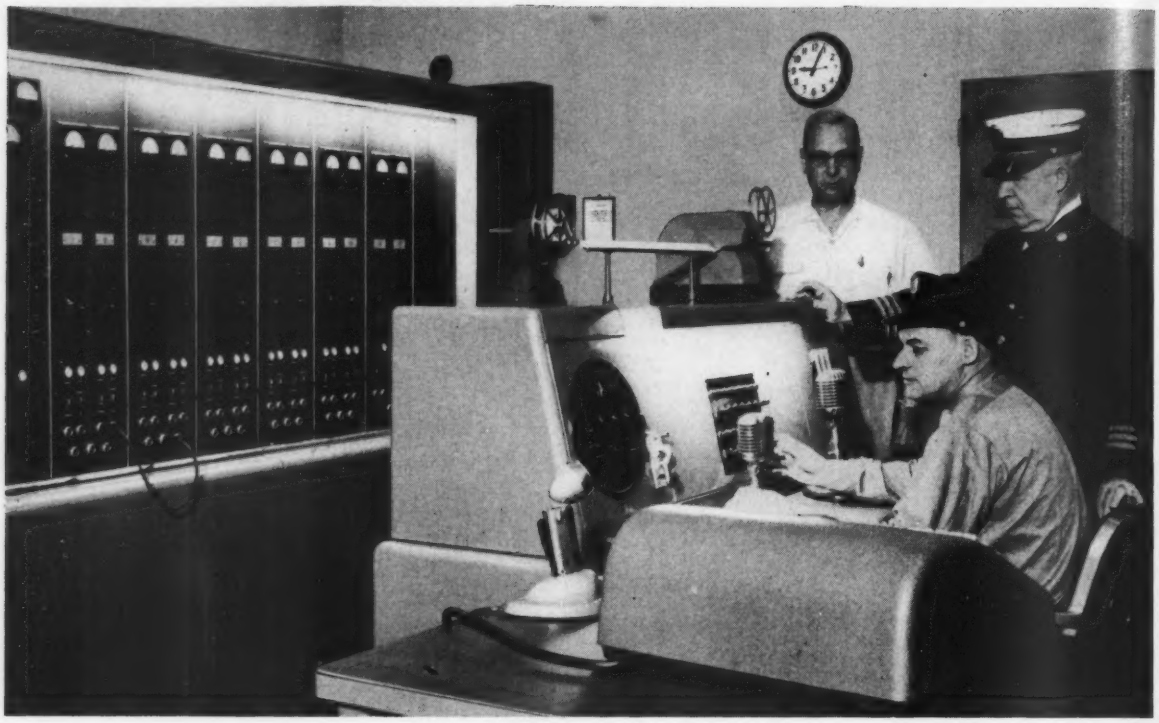
MORE POWER TO YOU FOR THE TOUGH JOBS EVER SINCE NINETEEN HUNDRED TWO

CONTINENTAL MOTORS · Powerful as the Nation · AMERICA'S STANDARD ®

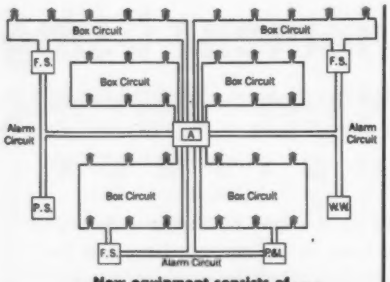
Continental Motors Corporation
MUSKEGON • MICHIGAN

6 EAST 45TH STREET, NEW YORK 17, NEW YORK • 6218 CEDAR SPRINGS ROAD, DALLAS 9, TEXAS • 3817 SOUTH SANTA FE AVENUE, LOS ANGELES 58, CALIFORNIA • 1252 OAKLEIGH DRIVE, EAST POINT (ATLANTA) GEORGIA

Lancaster, Pa., Reports...



New Automatic Alarm System Speeds Response to Alarms — Gives Extra Protection to Citizens



New equipment consists of . . .

Type B, Form 4 Central Office, replaces one installed in 1896.

Voice Communication Equipment between central office and outside Fire Stations.

FIRE FACTS **Gamewell Type B Fire Alarm System** is completely automatic. Box circuits go to Central Alarm Station from where Alarm Circuits connect Fire Stations and all important Emergency Centers. Recording devices, and audio and visual alarm signals are furnished as required.

Remember-a Gamewell System is FIRST when seconds count!

A new Gamewell Type B, Form 4 Automatic Coded Telegraph Fire Alarm System is now on the job in Lancaster, Pa. It gives Chief Harry Miller a big edge in protecting life and property against the hazards of fire in his community.

Here's how...

At the instant a fire box is "pulled", coded signals are automatically transmitted to Fire Headquarters, and immediately retransmitted to all engine houses, the water department, police department, power and light plant and the fire chief's home — all simultaneously.

Result...

The entire fire defenses of Lancaster are mobilized within seconds . . . automatically. Men and equipment get to the scene during the vital first seconds of the emergency. The citizens are assured of the most effective fire fighting possible.

Ask for ALL the Facts

Gamewell experience with all types of fire alarm and signalling systems can help your community plan for maximum fire defense. A special FACTS KIT is available to answer questions on fire alarm systems and Gamewell will be happy to conduct a FREE Survey to assist you in planning. Write or call . . .

THE GAMEWELL COMPANY
Newton Upper Falls 64 Massachusetts
In Canada: Northern Electric Co., Ltd., Belleville, Ont.

GAMEWELL®

THE BOX IS POSITIVE · REDUCES HUMAN ERROR

FIRE
ENGINEERING

VOL. 110, NO. 2 FEBRUARY, 1957

A CALAMITY — AND A DISGRACE

It is no secret that insurance circles are much concerned over the mounting number of destructive church fires. So, too, are the nation's clergy—and many of their parishioners, fire fighters included.

It was bad enough to record some 4,300 church fires in the year 1955, with losses running into the millions; but the year 1956 was even worse, in number of fires and destructiveness. Now, as this is written, we find the opening chapters of the bright new year besmirched with further red records.

True, the religious edifices have always rated high on the fire loss lists; but one would think that with the tragic history of such costly destructiveness before both clergy and fire preventionists, something would have been done about it particularly when that loss history goes back over thirty years. But if anything has been done, the ever-mounting losses seem to belie it.

Actually, there is no particular secret either about the origin of most of these fires, or the reasons for the very high loss ratio per fire among religious buildings. The causes for the most part, are as obvious as the after-effects.

Over thirty years ago, The National Board of Fire Underwriters said this: "The statistics (of church fires) tell a most disturbing story. . . . Such a loss represents destruction in a two-fold sense: of material property, and of a community influence, which may be tangible or intangible, but which is always plainly demonstrable. Few persons will fail to agree, therefore, that a church in flames is a calamity to the community it serves. It is . . . besides being a calamity, something of a disgrace; for 75% of all the churches and chapels burned, whether much or little touched by the flames, during any given year, need not have so suffered . . . since the leading hazards responsible for church fires are in every instance either wholly or partially preventable."

Then the Board listed the originating causes of such fires during the period 1919-1923: "Stoves, furnaces, boilers and their pipes" headed the list, followed by lightning, defective chimneys and electricity,

Today, 32 years later, to be exact, the causes of fires in this same category are practically the same, with "heating defects" topping the lists and with chimney, smoke pipes, misuse of electricity and lightning still well up on the docket. The one cause that has assumed increasing prominence over the years is arson. This now rates second among known causes, according to the NFPA (Occupancy Fire Records, 1956).

Apparently in 32 years we have failed to profit materially by the lessons taught by these causative records, particularly in the elimination of the factors primarily accountable for the rapid, uncontrolled spread of fire throughout such edifices, once it has propagated.

These factors, which are just as common today as they were 32 years ago, are (1) unstopped walls: (2) open vertical arteries, stairs, etc.: (3) concealed spaces, and (4) large, undivided areas. Even worse, the irony of it is that in not a few cases, after churches have been burned because of these architectural and constructional shortcomings, the same grievous mistakes have been committed all over again in the reconstruction of the burned edifices!

Finally, we find fire originating these days in about the same place in churches as was true three decades ago—the most common breeding place being the basement. And prying still further into the lurid records, we find that such fires are being discovered today just about as they were "way back when," the overwhelming majority of them by outsiders—passers-by, or neighbors. And every fire fighter knows what this kind of discovery means! Shades of delayed alarms!

Why is it that those who design and build churches —and pay for them, have failed so dismally to measure the value of protective automatic fire detection and signaling—yes, and extinguishing systems, against the investment in blood, tears, sweat—and money in their religious structures!

The leading text in this issue of FIRE ENGINEERING recounts the "unexplainable" destruction of churches in Hartford, Connecticut, and Boston, Massachusetts (the account could have been far greater had there been room). It is a tragic, and a disgraceful message. We wonder if it will be another 32 years before it is taken to heart!

Roi B. Woolley

Editor

Church Fires Show Alarming Increase as New Year Opens

Fire bursts from front of stately St. Joseph's Cathedral, Hartford, Conn. Fire spread unstopped through roof and other voids—*Hartford Courant photo*

Disastrous blazes in Hartford and Boston, described in this special FIRE ENGINEERING Report, are typical of the destruction of religious edifices throughout this country and Canada

ANYONE WHO HAS STUDIED the monthly fire reports ("What's Burning") in FIRE ENGINEERING the past few years, must be distressed at the abnormally large number of serious, costly fires in religious edifices. As is pointed out in this month's editorial, such fires are a calamity and a disgrace.

Much has been written and said publicly about such destruction. But there is a dearth of detailed, factual data concerning the efforts and operations of the respective fire forces in combating these fires.

For this reason, the editors are pleased to publish the following reports of three recent church fires, with the generous assistance of the men most concerned in fighting them, Fire Chiefs Henry G. Thomas of Hartford, Conn., and Leo C. Driscoll, of Boston, Mass., and FIRE ENGINEERING's correspondent, Thomas F. Magner. We submit also a pertinent statement by Mr. Lewis A. Vincent, General Manager of the National Board of Fire Underwriters, which coincides with the recommendations advanced by these two veteran fire fighters.

BOSTON

EARLY ON THE MORNING of October 19, 1956, Boston fire fighters performed the difficult feat of stopping a well-advanced fire in a church of second-class construction. The fire started in the rear basement and extended to the upper church organ site, choir loft, bell tower and concealed space between the underside of the roof and ceiling of the main church auditorium. This incident occurred in the Holy Trinity Catholic Church located on Shawmut Avenue in Boston's south end district.

It is a generally accepted theory that a well-advanced fire in a large church over 50 years old usually ends in its complete destruction. In the words of Fire Chief Leo C. Driscoll, supplementing those of Chief Henry Thomas and the National Board of Fire Underwriters, "This is due to heights of building and ceilings; type of construction; large inaccessible concealed spaces; steep slate roof; lack of supervisory attention and absence of automatic alarm and fire suppression systems."

These negative factors, most of which were present in the Holy Trinity Church, make noteworthy the success of the Boston Fire Department. The difficulty of access, the volume of fire visible, the extremely dangerous and hard job of ventilation, and the lack of transit between the basement church and upper church appeared to portend a complete loss.

At 3:29 a.m., Box 1615, Shawmut Avenue and Cobb Street, was sounded for a fire in the Holy Trinity Church. The edifice is located on a corner formed by Cobb Street, Shawmut Avenue and Lucas Street. On the rear of the old structure is a connected rectory. The building measures 75 feet in front, 200 feet in depth and has a height of 100 feet.

Response on the box included a district chief, three engine and two ladder companies. Upon arrival, the chief was informed by a citizen that heavy smoke was seeping from beneath the basement entrance door on the Cobb Street side of the church.

Upon investigating, the district chief noted the smoke conditions and from his size-up diagnosed there was all evidence of a possible serious fire. The Fire Alarm Office was immediately notified that a working fire was in progress, which information automatically required the sending of an additional engine company. To supplement this, request was made for an additional ladder truck.

Fire force operations

The first-arrived ladder company was ordered to force the basement doors on Cobb Street and Lucas Street. These, like all doors for use of the public, were of heavy wooden construction secured by interior sliding bolts. It was necessary to use a battering ram to force these doors.

The church construction prevented passage from one side of the building interior to the other, and from the basement church to the upper church. This also necessitated the forcing of the front center door of the upper church.

The 100-foot aerial ladder was raised on the right side to the slate roof at its highest point directly behind the bell tower, to ventilate. It was learned that the interior of the bell tower could be reached from the roof. This afforded access to the critical area between the under-side of the roof and the ceiling of the upper church. Large scuttles on both sides of the pitched roof were immedi-

HARTFORD

TWO CHURCHES at Hartford, Conn., were destroyed by fire on December 30 and December 31, 1956, both within a period of 32 hours. First to be ravaged by flames was St. Patrick's Roman Catholic Church at 265 Church Street, with estimated damage of $250,000. The second was St. Joseph's Cathedral, on Farmington Avenue, center of worship for Catholics of the Archdiocese of Hartford. This loss was estimated by Fire Chief Henry G. Thomas at $5 million.

The origin of these two fires remains undetermined at this writing, but the possibility of arson has not been ruled out. Already over a dozen suspects have been questioned. Of this number, three were held under bonds of $20,000 each for investigation. The probes are being handled by local police, State Fire Marshal's office and the Hartford Fire Department with Captain Edwin M. Curtin, Jr., Deputy Fire Marshal, working under instructions of Fire Chief Thomas.

St. Patrick's roof vulnerable

The first alarm for the St. Patrick's Church fire was received at 12:31 a.m. when Patrolman John Brownstein, in a police cruiser, saw smoke coming from the roof area. He radioed Police Headquarters where the police dispatcher immediately flashed word to Fire Headquarters. Box 17, Ann and Allyn Streets, was sent out as companies were notified by the department's audio address system that the church was afire. This initial response brought Engines 4, 2, 3, and Ladders 1 and 3, with Deputy Chiefs Patrick T. Driscoll and C. H. Leon Crawford to the scene.

The initial assignment of companies encountered no serious difficulty in entering the brick and wood edifice which they did from both side and front doors of the main church. The fire was first observed coming from the ceiling in the general direction of the altar.

A heavy gale was blowing outside, with gusts up to 58 miles per hour. The wind was from the west with the temperature 15 to 18 above zero. The nearest hydrant to the church was 20 feet away and six other hydrants were located within 500 feet of the fire area. The water supply during the fire was excellent with an average of 80 pounds pressure.

The second alarm was ordered by Chief Driscoll at 12:36 a.m., sending Engines 1, 5, 7, and Ladder 6 to the scene. Fire Chief Henry Thomas also

Continued on page 130

Wind and frigid weather punished fire fighters. Firemen Sydney Rothberg is treated by Fire Department Surgeon John O. Di Pasquale. A number of firemen were treated for injuries and smoke poisoning
—Hartford Courant photo

ately removed to further release banked-up heat and smoke.

The second ladder company raised its 85-foot aerial on the right side of the building about three-quarters of the distance from the front end of the building, pending determination of the fire's course; its crew then assisted in forcible entry.

Heat and smoke punishing

The first-arrived engine company laid a 2½-inch line to the right basement entrance to strike at the origin of the fire. Smoke conditions required all members to wear gas masks. However, many fire fighters were overcome by the intense heat and had to be removed and revived.

Church organs are fire breeders. Here Boston firemen overhaul atop the big organ at Holy Trinity Church using long rakes and plaster hooks. Note plaster and lath construction and use of extension ladder and 1½-inch hose—*Boston Fire Department photo by Bill Keefe*

The second and third engine companies stretched 2½-inch lines through the front center door into the upper church to gain a position above the fire.

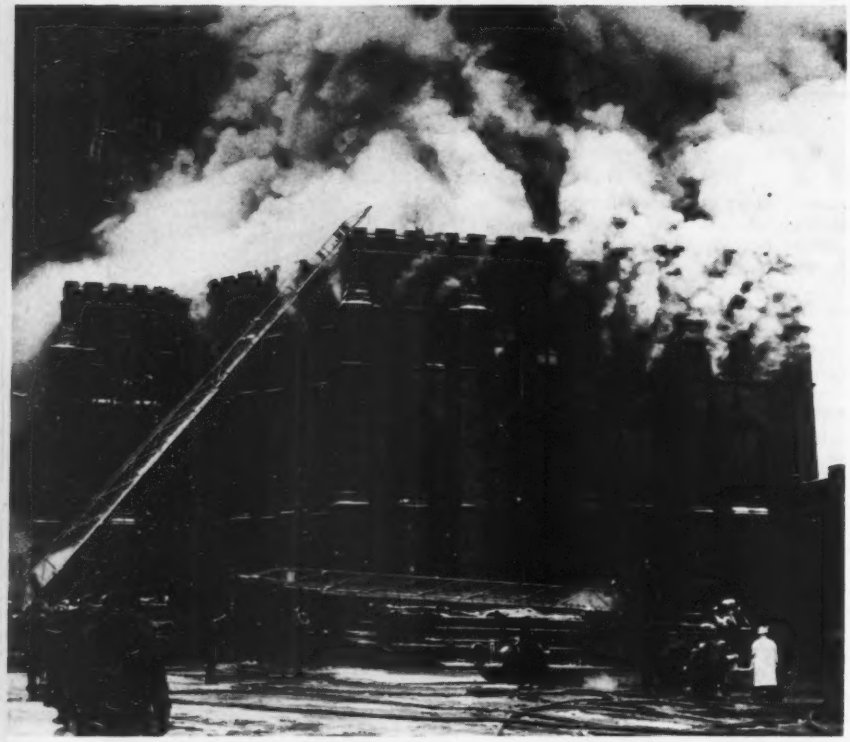
It developed that the entire organ site in the upper church was already involved and the fire had extended above it and was advancing rapidly to the space between the main church ceiling and the underside of the roof as well as to the belfry. The second engine company was ordered to proceed up the right side stairway to the choir loft while the third engine company headed directly into the main church to prevent extension therein, and if possible, confine the fire in the basement area.

Upon its arrival, the fourth engine company was directed to take a 2½-inch line into the basement's left front side and operate it on the fire. The third-arrived ladder company raised its 85-foot aerial on the left side of the roof to assist in ventilation.

Reinforcements called

When the deputy chief arrived from division headquarters, he immediately ordered a second and third alarm. Fire was then breaking through the large front windows and heavy smoke was issuing from the belfry. The fire had reached the

Continued on page 130



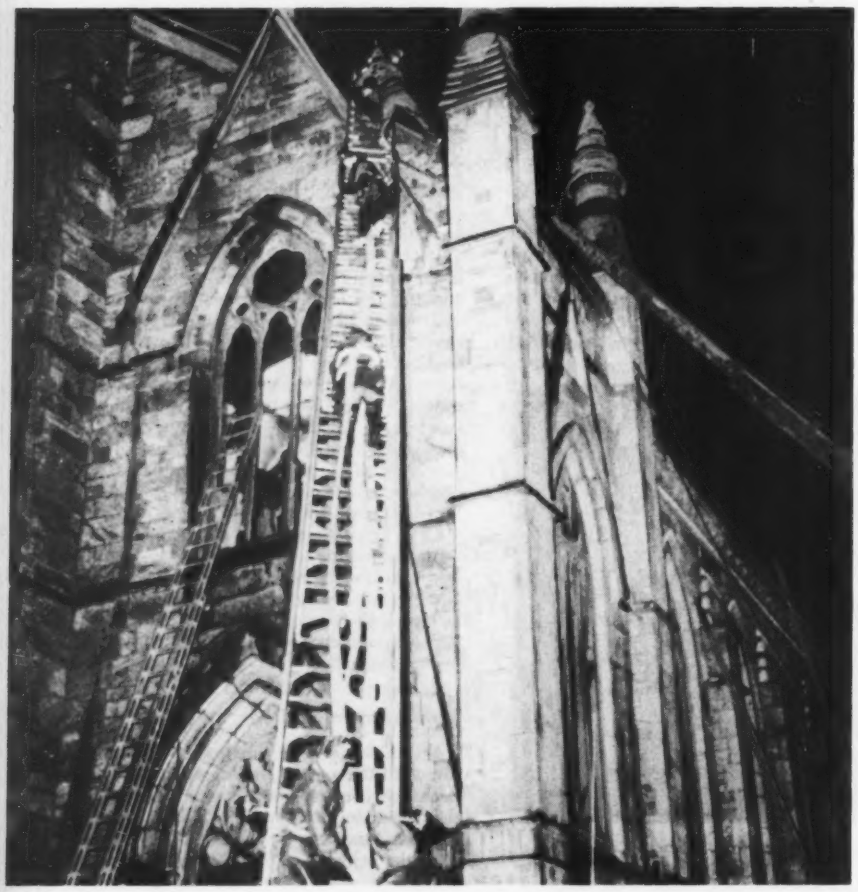
Fire fighting operations at rear of St. Joseph's Cathedral after firemen were driven from sacristy. Efforts were made to reach fire through windows (note extension ground ladders). Men were removed from roof via aerial shown while second aerial is being readied to operate as water tower. Vast roof area of church is involved. Smoke hides the twin towers
—Hartford Courant photo

HARTFORD *Continued*

responded on this alarm and took command. At 12:52 a.m. Chief Thomas ordered a third alarm which called Engines 6, 8, 14 and another aerial into action.

Chief Thomas, who was one of the first inside the church, assisted Fire Department Chaplain Rev. Francis S. O'Neill in removing the Blessed Sacrament. As the fire spread through hidden spaces to ultimately involve the entire roof area, fire fighters were forced because of hazardous conditions to operate from outside the building.

Using all available equipment of the nine engine and four ladder units, streams were directed onto the structure from all sides, hitting the roof and large win-



Rapid laddering of Holy Trinity Church was an important factor in controlling spread of fire. Here crews take up line over new 100-foot aerial to reach fire through door at bottom of belfry at roof level
—Boston Traveler photo

BOSTON *Continued*

critical section between the ceiling and underside of the roof. In addition, casualties from the severe punishment inflicted on those working inside the building seriously depleted the personnel strength.

The first of the second alarm companies was directed to operate in the basement and assist the company which had entered on the left side of the building. The second engine company, as a precautionary measure, ran two lines into a deck gun of a hose wagon placed almost directly in front of the fire building. Its crew then laid a 2½-inch line into the building and up the right stairway to the choir balcony to reinforce the company at work there. The third-arriving engine company took its 2½-inch line up the same stairway to operate on the choir loft level and the third platform level above it. The fourth engine company laid a 2½-inch line into the basement and then carried a second 2½-inch line via the aerial into the structure at the third platform level, to operate with the third-arrived (second alarm response) engine company. The first and second ladder units due on the second alarm

dows and louvres of the tall steeple. Spray from these lines blew back onto the fire fighters, coating their turnouts and helmets with ice. The water also iced parts of the church exterior and the area around Church and Ann Streets, to further complicate the fire fighting.

Master streams used

Two heavy streams were poured into the fire from two ladder pipes operating off one 100-foot aerial and another was directed from an 85-foot ladder, and a portable deluge set was also employed, to provide four 1½-inch master streams. The pump pressure ranged from 170 psi to 200 psi. Average nozzle pressure was 90 psi, with approximate discharge of 650 gpm each. The average pressure on hand lines was 60 psi, giving 290 gpm.

At 1:00 a.m. one-half hour after the fire was discovered, smoke conditions were so heavy it was impossible to see the tall steeple, located at the front of the church, and the slate roof behind it. At 1:30 p.m. the roof had completely burned through, with the squares of slate falling through to the church floor below or tumbling outside the structure, to pose an added threat to fire fighters.

The fire continued to work downward to the lower levels of the structure; at 1:50 a.m. the back doors of the church opened and ten minutes later firemen were able to again operate inside a part of the building, from which vantage position they were able to direct streams to bear on the burning roof timbers.

A total of 4,900 feet of 2½-inch hose and 2,600 feet of 3-inch hose was used during operations at this fire. Considerable hose was damaged when frozen amid burned timbers in the interior.

The roof was completely destroyed and the steeple tower heavily damaged, as were all interior furnishings, pews and religious statues.

Second Hartford church fire more disastrous

The first alarm for the city's second major church fire within 32 hours, that in St. Joseph's Cathedral, was received by Fire Headquarters from the Cathedral's private box, 621, at 7:33 a.m. after Rev. Francis S. O'Neill, who had just finished celebrating the 7:00 a.m. Mass, discovered the fire, along with Deputy Fire Chief James McSweegan, who also attended the Mass. A parishoner stopped Chief McSweegan on his way out of the church and informed him that she had noticed smoke seeping through the east side of the Cathedral.

Chief McSweegan hurried to the sacristy and together with Father O'Neill and Francis Macken, Cathedral engineer, entered the basement by way of the back stairway. The trio felt intense heat and heard the crackling of flames and lost no time pulling the alarm box on the rear of the Cathedral rectory.

Responding on the box were Engines 5, 18, 12 and Ladders 1 and 5 with Assistant Chief Thomas F. Lee and Deputy Chief Thomas Shortell. While awaiting the arrival of apparatus, Chief McSweegan continued to search the basement in an effort to locate the source of the fire, while Father O'Neill and Rev. Allen E. Carter carried the Blessed Sacrament to the rectory.

Realizing the seriousness of the situation, Assistant Chief Lee ordered a second alarm at 7:43 a.m. which brought Engines 4, 1, 14 and Ladder 4 to the scene. Fire Chief Henry Thomas responded on this alarm and immediately took command. At 8:17 a.m. a third alarm was ordered by Chief Thomas which called Engines 2, 3, 15 and Ladder 3. Altogether, the Hartford Fire Department mobilized 14 pumper and 5 aerial ladder companies to operate on this blaze.

This force, augmented by additional

Continued on page 181

were placed on each side of the building to assist in ventilation at roof level; thereafter their crews entered the building with ground ladders necessary to reach the choir loft.

The deputy chief, as a precautionary measure, directed the first engine of the third alarm companies to hook up to the ladder gun on the 100-foot aerial. They then took a line over the same ladder to the right rear of the belfry and operated it through the scuttle opening on the roof over the organ assembly. The second engine company operated a portable gun placed in the choir loft, directing its stream vertically between the partition wall and the rear of the organ. The third engine company took a line over an aerial ladder at the front of the building and operated on the upper interior part of the roof where it joined with the inner wall. The fourth engine company assisted in extinguishing the basement fire at the point of origin. The third alarm ladder units were located on the left side and front of the building. Their crews then assisted in placing ground ladders inside the building. The Chief of Department and the Three Assistant Chiefs responded on the third alarm.

When conditions permitted, companies were directed to reduce lines to 1½-inch for flexibility of operation and to minimize water damage. The portable gun originally set up in the choir loft was reduced to hand lines for wider latitude of operation. In no case was it necessary to utilize the precautionary exterior heavy stream appliances. Essential illumination was provided by lighting equipment on the ladder trucks at the scene.

Origin in doubt

Investigation was immediately begun by the Arson Squad to determine the cause. The fire apparently started in electrical equipment at the basement organ site. Notwithstanding the severity of this fire, the damage appraisal was approximately $75,000 with $35,000 of it attributable to the loss of the basement and upper church organs. A detail of one officer and six men and hose was left to guard against rekindle.

Following the fire department's policy, a post-fire conference was held to determine the factors that are most essential for successfully controlling church fires and which paid off in this particular fire.

Continued on page 184

A FINAL NOTE

From the period December 22, 1956, to January 22, 1957, additional serious church fires have occurred in the following cities:

Tuskegee, Ala.—*Chapel of Tuskegee Institute.*
La Puente, Calif. — *St. Joseph's Catholic Church.*
Clarksville, Dela.—*Wesley Methodist Church.*
Newark, Dela.—*Newark Methodist Church.*
Ontario, Ohio—*Interdenominational Church.*
Dayton, Ky. — *First Presbyterian Church.*
Baltimore, Md.—*Gatch Memorial Methodist Church.*
Charleston, Mass.—*First Congregational Church.*
Galien, Mich.—*Olive Branch Evangelical Church.*
Stanton, Mich.—*First Congregational Church.*
St. Louis, Mo.—*Vinite Park Methodist Church.*
Spickard, Mo.—*Assembly of God Church.*
Newark, N. J. — *First Methodist Church.*
Syracuse, N. Y.—*First Methodist Church and adjoining building of First Wesleyan Methodist Publishing Association.*
High Point, N. C.—*Pearson Memorial AME Zion Church.*
Cincinnati, Ohio—*St. Paul Roman Catholic Church.*
Cincinnati, Ohio — *Asbury Third Methodist Church.*
Sheffield, Pa. — *Calvary Baptist Church.*
Warwick, R. I.—*Shawomet Baptist Church.*
Pennsboro, W. Va.—*Trinity Methodist Church.*
Montreal, P. Q.—*St. Elizabeth du Portugal Roman Catholic Church.*

INTEGRATION

Consolidated Fire and Police Departments

By WILLIAM L. MILLER
Chief Engineer, Los Angeles Fire Department

Few subjects in recent years have been so discussed, and cussed, by the nation's fire services as that of integration of police and fire forces.

Notwithstanding the overwhelming evidence to disprove the claims of greater economy and efficiency in fire protection advanced by proponents of police-fire mergers, certain municipal officials and associations continue to advocate such integration.

At the outset, a few years ago, the idea of such consolidation appeared so preposterous that for the most part, the nation's fire services paid little if any, attention to the theories advanced by those promoting the idea. It was but a passing fancy they believed, and would die the painless death as did a similar proposal introduced nearly a generation ago.

However, the increasing pressure upon fire protection officials by municipal authorities — city managers and engineers, in particular—and the publicity—much of it distorted—given the few isolated experiments in integration, continued to multiply, inspired in no small measure by the support of some writers and publishers catering to public gullibility. The latest of these as most of our readers know, are author Karl Detzer and the *Reader's Digest*, one of the nation's most widely read magazines.

With such mediums beating the drum for integration (and incidentally refusing to present both sides of the case) it was obvious to forcthoughtful fire officials that the merger claims which were being seriously entertained by many financially hard-pressed communities as a panacea for "what ailed them," could no longer be ignored. Therefore, fire forces and allied groups introduced the subject of police-fire consolidation at their company, department and association meetings, the high point being reached at the recent conference of the International Association of Fire Chiefs in Miami.

At that time, a panel consisting of two proponents and two opponents of integration presented the opposing viewpoints. Speaking for integration were City Manager William J. Veeder of Fort Lauderdale, Florida, and H. G. Pope, Executive Director, Public Administration Service, Chicago. Taking the opposite view were Fire Chief William Miller, Los Angeles and Police Chief Walter Headley Jr. of Miami. The moderator was Chief Wayne Swanson of Rockford, Ill., IAFC president-elect.

The arguments put forth by advocates of consolidation were essentially those advanced by author Detzer in the *Reader's Digest*. On the other hand, the disadvantages of consolidation expressed by Chief Miller, in particular, were refreshing and enlightening. We are pleased to reproduce Chief Miller's paper just as he gave it.

We are also glad to bring readers further refutation of the claims made by Mr. Detzer that firemen waste their time playing cribbage and watching television, in the form of a statement from Chief J. F. Casavant, of Gardner, Mass.

THE FIRST CONSIDERATION in this discussion rightfully should be: What is our purpose? The answer, of course, is that our general purpose is to provide better fire departments, better fire protection and better service to the public.

With this thought in mind we should first consider the fire service as it exists today. Let us compare it with the fire service in 1900, 1920, 1930, 1940 or even 1950. Has the fire service kept pace with the growing demands which are ever increasing? Has it fulfilled its obligations to the public in a commendable manner? A search through the history of the fire service will establish positively that great forward strides have been made; that advancements have been made on every front and that today it is far different from that of fifty years ago. It can be stated positively that the fire departments of this nation have kept pace with the progress of our country. They have met the challenges on every front. No one can deny this statement.

What has brought about this great advancement and progress? What has caused the fire department to keep pace? Has it been by just pure accident or has it been by positive planning and a practical approach? There can be no doubt but that the progress made has been the result of planning, farsightedness and promotion by the National Board of Fire Underwriters, The National Fire Protection Association, fire equipment manufacturers and primarily by the fire chiefs of the nation. The men who belong to the International Association of Fire Chiefs and other similar organizations have been the cause of this great progress. We could go on and on singing the praises of leading fire chiefs in the country and leaders in other closely related organizations. That, of course, is not necessary.

I bring this to your attention to establish one thing: Who in the United States of America is better qualified to judge what is best for the fire service? What is best for the protection of the people—the men in the organizations just mentioned, or should we leave the judgment to people who have had no practical ex-

perience in fire prevention work, no practical experience in directing large groups of men under conditions of extreme tension? It is my opinion that the men who have faced the problem, the men who have brought about the progress and the forward strides made to date are more qualified to be judges.

The point we are considering is not whether the fire service should be further advanced and further improved. It is not whether the fire service should keep pace with the progress of the country. The point under discussion is how best this can be done. Can it better be done by highly trained, well qualified, sincere men dedicated to an individual service or might it better be by men trained to do two jobs at the same time?

Each of the organizations listed above, The National Board of Fire Underwriters, The National Fire Protection Association and the International Association of Fire Chiefs has voiced strenuous opposition to the combining of fire and police departments for the protection of our cities. They have not arrived at this conclusion through hasty thinking or because of a cursory survey made by some one individual or a small group of individuals. They have reached their conclusions from years of sound, practical experience and from a thorough study of the needs of a community for proper fire protection.

I have researched this matter to quite an extent. I have discussed it with fire protection people from all parts of the country. I have made checks on cities where police and fire departments have been combined. I have studied the publications "Police and Fire Integration in the Small City" and "A Frontier Of Municipal Safety" by Charles S. James. And, yes, I have even read the recent article in the "Reader's Digest." I wonder to what depth these would-be scribes would stoop to sell an article. Isn't it amusing that the public safety officer in Oak Park, Mich., visualizes his department as becoming a training authority and training ground for fire chiefs throughout the nation!

In Mr. James' book he tries to provide a fire service to handle the average fire. I am wondering just what constitutes the average fire.

It has not been the experience of fire departments throughout our country that being geared for the average fire, which probably would be one readily extinguished by single inch and a half line, is adequate fire protection for any community. A fire department geared only to the extent of the average fire may just about as well be non-existent. This fact is quite well recognized by the National Board of Fire Underwriters inasmuch as these so-called public safety officers in the field are only credited as call-men. In my opinion, this credit is over-generous.

Why stop with police-fire integration?

It would be interesting to know why the public administration service choose to combine the fire and police services. Why not the police and health service or why not the fire service and the building department or why not just combine all services? If it's possible to have a superduper public safety officer who can also be a fire inspector, why could he not also be a health inspector, a building inspector, a dog catcher or just any kind of a public servant that might come along? As a matter of fact, the street sweepers might just as well make health inspections, fire inspections, building inspections and enforce the law as they go sweeping down the street.

Case histories of failures

Combining fire and police services, of course, is not a new thought. It has been tried and has failed in several localities throughout the years. In our state I know of six small cities where this system has at one time been in effect. I would like to give you the history of some of these:

San Marino, Calif.: Had a combination police chief and fire chief. Both services suffered severely. The fire department degraded to such depths and the insurance rates rose to such heights that the system was abolished. At the present time they have separate, positive fire and police departments.

Hawthorne, Calif.: Experiences and results exactly the same as San Marino.

Sanger, Calif.: Police chief was also the fire chief. By his own admission in a

Continued on page 186

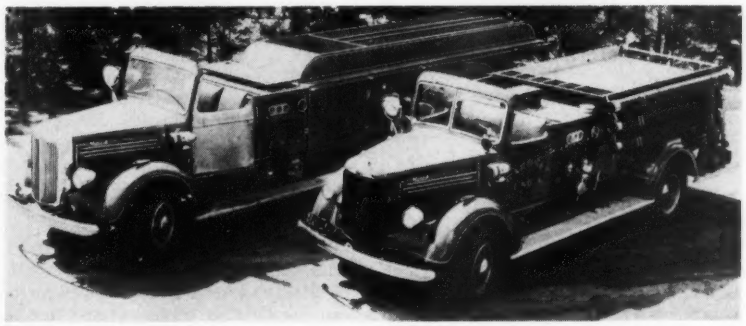
How Gardner, Mass., Firemen "Waste Their Time"

In the October 1956 issue of "Reader's Digest," author Karl Detzer made this statement — among other ill-considered assertions: "No firemen were just sitting around, wasting time playing cribbage, taking a hand at pinochle or watching television as they do in nearly all of 2,500 American communities with paid or part-paid fire departments." There isn't room herein to recount all of the tasks undertaken by fire fighters of this country during the time they are not engaged in responding to or returning from emergency calls, performing necessary housekeeping duties, etc. FIRE ENGINEERING has in the past described many of these undertakings, such as field inspections, special safety details and countless "extra-curricular jobs," many of them frought with considerable danger. Mr. Detzer evidently hasn't studied these and other undertakings calculated to make a fire department "pay its way."

One such bit of evidence which deserves to be told, comes from Fire Chief James F. Casavant of the Gardner, Mass., Fire Department. Chief Casavant is just as staunch a believer in standard design and makes of fire apparatus as the next man, but he could not pass up an opportunity to improve his fire fighting facilities, and at the same time, save his community money.

In 1955, the Gardner department purchased at auction (the price $5,500) two surplus Mack quad fire engines. In a period of 18 months his firemen (Chief Casavant emphasizes they were not paid mechanics), cut the chassis 9 feet, built 600 gallon tanks and installed hose bodies on the two rigs, at a price of $1,000. These two Mack pumpers each presently carry 1600 feet of 2½-inch hose, 500 feet of 1½-inch hose, 200 feet of 1-inch hose on a reel, and 600 gallons of water.

Both units are Underwriter's approved while delivering 1100 gpm. Both trucks are now in service at a cost to the city of $6,500. This spare time work of the firemen, claims Chief Casavant, saved the city a considerable sum. They are valued at approximately $18,000 apiece. □□



Before and after: On the left is one of the quads before rehabilitation. On the right is a modern pumper that resulted from the rebuilding efforts of the Gardner firemen. Both engines are today in first line service in the department

By ROI B. WOOLLEY

While fire fighters aided pressroom and other employees down aerial ladders, fire patrolmen were rushing into the burning annex, to perform salvage work alongside, and above and below fire fighters. Evacuation of nearly 1,500 persons from printing plant and editorial offices complicated attack and salvage operations

PART XXI

SALVAGE CASE HISTORIES

FIRE ENGINEERING presents in this issue the first of several case histories of outstanding salvage operations. This is the account of how prompt, efficient salvage operations prevented a water and smoke loss that might have been far greater than that caused by the fire itself.

CASE HISTORY NO. 1

Newspaper Plant

SUBJECT OF STUDY:

New York Daily News
220 East 42nd Street
New York, N. Y.

DATE AND TIME:

February 5, 1954
3:01 p.m.

THERE IS AN OLD SAYING, "There is nothing so dead as yesterday's newspaper." A revised version of that quip might be: "There's nothing so dead as a newspaper plant that can't get out tomorrow's paper."

A newspaper, or a printing plant, also, can be very dead in a very short time as a result not alone of fire's visitation, but of the attendant water and smoke damage.

What complicates the newspaper production problem is not the fact that publishers as a whole have many small fires but that so many small fires in newspaper plants can have such disastrous repercussions. A few dollars worth of newsprint or ink, ignited at the right—or the wrong time—can put a press costing many thousands of dollars, and possibly an entire plant, out of commission. Every minute a newspaper plant is shut down may mean heavy financial loss. Time is of the essence in newspaper production. For this reason, prompt, thorough salvage in such occupancies is requisite.

Such was the case we recite. The fire started shortly before 3:00 p.m. February 5, 1954, presumably in waste paper near an ink duct. It communicated to a section of an 8-foot by 6-foot ventilating duct at the third floor level in the East 41st Street side of the annex of the 36-story modern plant at 220 East 42nd Street, Manhattan.

The carbon dioxide system in the duct had been temporarily shut off while maintenance men were cleaning out accumulated residue. Incidentally, the huge plant is equipped with approved fire detection and extinguishing systems.

The fire was discovered simultaneously by a letter carrier on the outside, and someone on the inside of the building in the seventh floor City Room. The carrier pulled Box 774 at Third Avenue and East 41st Street, which was recorded at fire alarm headquarters at 3:01 p.m. Responding were Engines 21, 8, 65, 16; Ladders 2, 7; chiefs of the 8th and 9th Battalions and a section of the New York Fire Patrol under Sergeant James Lynch.

This report is not concerned with the operations of controlling progress of the smoky, hot fire, which spread to the roof duct atop the nine-story annex of the plant. In the pressroom it involved waste paper, ink rollers, benzine-soaked rags, etc., all of which gave off heavy

smoke, driving out all but 12 of the 50 employees of the fire area and necessitating rescue of these 12 down aerial ladders. A second alarm was struck at 3:07 p.m. and a third at 3:09 p.m.

Sprinkler Heads Let Go

The intense heat generated by the fire set off a large number of sprinkler heads, releasing a heavy volume of water to join with that being thrown into the building by fire fighters to control the fire. The entire fire area was thoroughly saturated with water. The fire itself was mainly confined to the press room but it broke out of the air ducts at the sixth floor where sprinklers soon controlled it.

Faced with this potentially heavy water damage, Sergeant Lynch quickly reported the details of the fire to Chief Joseph Scanlon, superintendent of the Fire Patrols, and asked for assistance.

Chief Scanlon recalled a previous fire which involved a newspaper printing plant during his period as a deputy chief in the New York Fire Department. He therefore ordered all of the ten units of the Patrol then in service, to respond. This action brought 60 patrolmen to the scene. Since that time the total complement of the New York Patrol has been further reduced.

A total of 171 covers were spread to protect the battery of eight huge presses and the rolls of costly newsprint ready for the next edition of the paper. A trough under each of the presses had collected large amounts of water and portable pumps were speedily brought into play to remove this runoff. Fortunately, rolls of newsprint had been properly skidded and the runoff in this area was controlled by portable pumps and squeegees, aided by floor scuppers. Some of these pumps discharged directly to the out-of-doors via windows. The fire patrolmen received welcome "assists" from newspaper employees, in this work.

The quick action held water to the press room floor. Some runoff on the sixth floor resulting from the few sprinkler heads which operated when the fire broke through the duct, was quickly removed by employees of the newspaper with negligible damage.

The newspaper later estimated that 150 tons of newsprint were damaged by the water before the Fire Patrol could get into action. Following the fire, the pressmen immediately returned to the room and began hand-drying the huge presses, and rubbing them down with steel wool. Salvagemen checked on all the covers and saw to it that no vulnerable stock or equipment was unprotected. At 9:20 p.m. that same evening, five of the almost priceless presses were in operation and turning out newspapers.

The New York Fire Patrol was on duty for 11 hours and 15 minutes. Chief Scanlon's quick sizeup of the situation and the efforts of the patrolmen, were highly praised in the editorial columns of not only the "New York News" but its contemporaries. The New York Fire Department also received high praise for the efficient manner in which they handled the potentially dangerous fire. Fire Chief Peter Loftus, then Chief of Department, along with Fire Commissioner Edward F. Cavanagh, Jr. responded. The Chief warned the fire fighters against directing streams into the stereotype room adjacent to the press room, where three huge vats of molten lead were located. This order prevented a possible explosion due to rapid generation of steam resulting from the application of water to the hot metal in that location.

Television Station WPIX, owned by the "Daily News," has its studios five stories above the annex building. It interrupted its regularly scheduled programs to televise the entire action of the fire for the benefit of its metropolitan viewers. The property damage — in excess of $300,000—reportedly would have been much greater had it not been for the way this fire was fought and salvaged.

New York fire patrolmen of Squad 2 squeegee water runoff out of New York Daily News building even before fire fighters had ceased operations so that the presses would roll. Every form of smoke and water removal was employed to minimize damage and speed reclamation

The first ladder truck and outside hose stream operating at the New York Daily News fire on February 5, 1954. Fire in pressroom annex spread through ventilating system. Note heavy smoke from ink, rubber and volatiles involving main building

CASE HISTORY NO. 2

Multiple Risks

SUBJECT OF STUDY:

Loft Building
312 Greenwich Street
New York, N. Y.

DATE:

January 9, 1957

Continued from page 135

THE MULTIPLE OCCUPANCY-type structure usually presents varied problems in salvage. Some of these may be serious and involve heavy potential property losses depending upon the type and extent of the different businesses involved in the occupancy. In most cities wherein such risks are found, a fire although confined to a limited area, or a single occupant of the building, may threaten so many other properties as to tax the fire department's and fire patrol's entire salvage resources.

A recent example of this type of problem occurred in New York's lower Manhattan when on January 9, 1957, a fire started in a textile reel company located on the fourth floor of a seven-story brick loft building at 812 Greenwich Street.

Although prompt effective work of some 50 fire fighters responding to two alarms, held the blaze to the floor of origin, some 75 persons had to be evacuated due to the very heavy smoke conditions.

Liberal use of water, necessary to confine the fire, posed a serious threat to large stocks of corrugated paper, textile forms, and various other materials vulnerable to water damage. Large stocks of flour and sugar, ovens and other valuable equipment on the premises of a wholesale bakery located on the first floor and basement of the building, also threatened to increase the property damage.

The New York Fire Patrol responded with four units. Working below the fire-floor, a total of 400 covers were spread to protect the various occupancies. Much of the operation had to be conducted in heavily smoke-charged atmospheres, some men working under showers of hot water.

Window chutes, two of which are shown in the accompanying photograph, were used to remove water that drained from the upper floors, and thereby reduced the water loss in the bakery.

This fire illustrates the wisdom of salvagemen devoting particular attention to the basements of structures and arteries leading thereto, involved in fire. The greater the number of vertical arteries and attendant openings terminating in the basement, the greater the possibility of heavy accumulations of water in such sub-surface levels and, consequently the more difficult the problem of water removal.

The New York Fire Patrol spread 400 salvage covers on January 9 at the smoky two-alarm blaze in this seven-story multiple occupancy. Although fire was held to fourth floor, water and smoke damage potentials were great. Note smoke conditions and second floor runoffs of water being chuted from upper floors, indicating speed of salvage operations

Control of runoffs

Considering this type of salvage problem, these words of advice from Chief Joseph Scanlon are pertinent: "Where a sensitive occupancy such as a bakery is located in a basement area (not generally encountered) obviously every possible effort should be made to prevent accumulated run-off and drain-off in such occupancy. Where elevator and other shafts, stairways, dumbwaiters, etc., offer easy waterways to basement occupancies, efforts should be made to cut these off from the lowest level, either by means of chutes or improved dams and by manually directing the runoff. If employees of the occupancy or occupancies involved, may safely be permitted back in the building it may be possible to invoke their help in salvage operations. Of course this work would be performed under direct supervision of trained salvagemen, as was done in the case of the before-mentioned "Daily News" Fire. Such strategy, however, should be done only as a last resort. At the same time, the cooperation of employees of businesses using special equipment and/or materials, may be helpful in acquainting members of salvage crews with certain procedures of salvage and reclamation that will be most effective." □□

Attending the Fire protection conference at Lowry Air Force Base were (left to right) S. G. Gilkinson, USAF; L. P. Heap, British Air Ministry; Colonel E. J. C. Williams, chief fire service office, British Air Ministry, London; Major Ernest Pflueger, fire protection specialist, Luftwaffe; Lieutenant Colonel Paul Vaulont, chief fire protection, German Federal Institute for Civil Defense; Major J. P. Deyesson, technical assistant, French Air Materiel Command; Captain Charles Bourgarel, French Air Force Test Center, and R. L. Crockett, USAF, Washington

USAF World-Wide Conference on Fire Protection and Aircraft Rescue

Gifford T. Cook, chairman of the conference

NEARLY 150 HIGH OFFICIALS of the United States Air Force and invited conferees, attended the World-Wide USAF Conference on Fire Protection and Aircraft Rescue at Lowry Air Force Base, Denver, Colo., December 3-6, to participate in top-level discussions designed to improve Air Force fire protection and rescue methods and material.

Conference Chairman was Gifford T. Cook, Chief USAF Fire Protection and Aircraft Rescue Branch, Maintenance Division, Directorate of Facilities Support. Vice Chairman was Max Alpert, Deputy Chief of the Branch. Meetings were held in the Conference Hall, Photographic School Theatre, at Lowry. Prominent among the visitors were heads of Air Force fire services in NATO, the German Republic, France, Great Britain; Alaska, Canada and all important USAF bases in the United States and possessions.

Welcome was extended by Brig. Gen. Eugene P. Mussett, Commander 3415th Technical Training Wing, Lowry AFB; Brig. Gen. C. Pratt Brown, Deputy Assistant Chief of Staff, Installations, USAF; the Hon. John M. Ferry, Special Assistant for Installations, Office of the Secretary of the Air Force, Washington, and other notables. Special representative of the Office of Defense was Mr. John J. B. Rockefeller.

Topics reviewed and discussed covered every phase of fire department and rescue organization, operation and maintenance. Speakers included top level authorities within the USAF and the following special guests: Everett W. Fowler, Director of Codes and Standards, National Board of Fire Underwriters, who spoke on "New Developments in Construction Hazards and Protection"; Maurice C. Kirkpatrick, Wasco Products, Inc., Cambridge, Mass., who told about "Built-in Ventilation for Fire and Smoke"; Richard E. Vernor, Manager, Fire Prevention Department, Western Actuarial Bureau, Chicago, whose topic was "Does Fire Prevention Pay?"; George F. Prussing, Consulting Engineer, Washington, who talked on "Fire Prevention and Protection Problems in Handling Fuels"; Chief Roi B. Woolley, Editor, FIRE ENGINEERING, whose paper was titled "Changes in The Fire Service in the Past 20 Years"; and Robert C. Byrus, Director, Fire Service Extension, University of Maryland, who discussed "Organizing On-the-Job Training Programs."

Effect of new weapons discussed

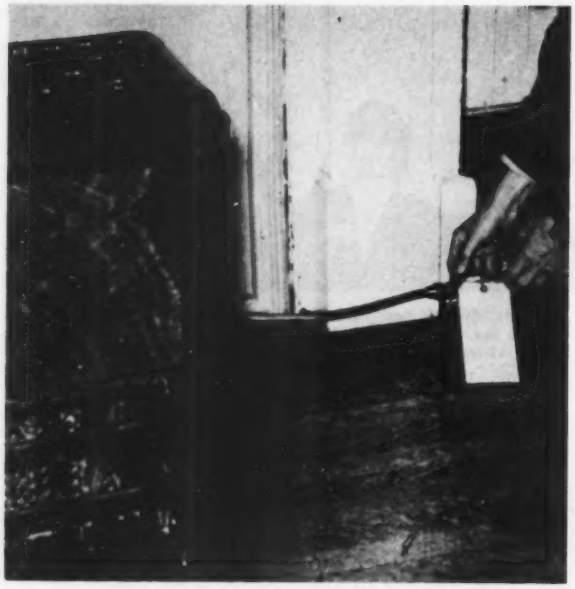
On December 5, illustrated discussions were held on the subjects of burning and disposal of high explosives, and the effect of the newest weapons on fire fighting and rescue, the participants being carefully screened for confidential and secret sessions.

On the 6th, the Lowry staff and fire fighting and crash students staged a demonstration of aircraft extinguishing and rescue operations on the Base.

Group visits New York

Following the conference, a group of USAF specialists, most of them from abroad, visited manufacturers in Indianapolis, Ind., and Worcester, Mass., to inspect the latest devices for fighting large scale aircraft fires being constructed to USAF specifications. A high spot of their eastern journey was a day spent as the guests of the New York Fire Department, during which Fire Chief Edward Connors, Deputy Chiefs Masset and Knockenhauer, Fire Marshal Scott, and others showed the visitors the still smoking Luckenbach Pier fire, and the fireboats and other major points of interest of the fire department.

This group included Roscoe L. Bell, Chief, Fire Protection and Aircraft Section, Headquarters USAF, Washington; J. G. Gilkinson, Chief, Fire Protection Division US Air Forces, Europe, Headquarters Germany, (Chief Gilkinson was formerly an officer in the District of Columbia Fire Department); also Colonel E. J. C. Williams, Chief Fire Service Officer, British Air Ministry, London, England; Major Jean Pierre Deyesson, Technical Assistant, French Air Material Command, Paris; Captain Charles Bourgarel, Technical Expert, French Air Force Test Center, Marignane, France; Lieutenant Colonel Paul Vaulont, Chief Fire Protection, German Federal Institute for Civil Defense, Bad Godesberg, Germany; Major Ernest Pflueger, Federal German Republic, Department of Defense, Fire Protection Specialist, Luftwaffe, Erding Air Base, Germany. □□



LEFT: Cincinnati's fight against CO accidents includes enforcement of a defective heater ordinance by sealing the heater out of service. Here, Inspector James E. Garland, after finding a heater to be defective by testing it, attaches the "out of service" seal. **RIGHT:** Inspector Garland uses carbon monoxide tester to determine the efficiency of a gas heater chimney

Cincinnati Declares War on Hazardous Gas Heaters

Gas safety inspection program to seal out-of-service dangerous devices

By CHARLES W. GRUBER

Air Pollution Control and Heating Engineer
Department of Safety, Cincinnati, Ohio

CINCINNATI DECLARED WAR on "The Silent Killer" (carbon monoxide) on January 19, 1955.

On that date, City Council adopted an ordinance authorizing the city inspectors to seal-out-of-service hazardous gas heaters.

History teaches that all wars have both remote and proximate causes. Cincinnati's war on gas fumes follows the classic pattern.

For years, residents in Cincinnati, as in other communities, put up with defective gas heaters. Some persons became ill because of carbon monoxide poisoning. Many died. The family of a prominent physician, living in a new apartment building, was hit twice within 14 months.

The first time was on October 18, 1948. The doctor's wife, sister, three sons and an 18-month-old boy from an upstairs apartment were hospitalized. Affected, but not hospitalized, were the physician, his mother, and the upstairs family, including the mother and four-year-old brother of the hospitalized baby. The fumes killed the physician's dog.

Authorities said the fumes came from the gas furnace, which was improperly installed and improperly regulated.

On November 28, 1949, the same family was overcome by fumes. This time, the cause of the near-disaster was an improperly adjusted and connected water heater.

As a consequence of the 1948 incident, the city's Air Pollution Control and Heating Inspection Bureau started a program of obtaining facts about all carbon monoxide accidents. Since the bureau already had responsibility for inspection of all heating equipment, this was a logical step. Since 1948, the records indicate, there have been more than 200 such investigations.

Legislation improved

In addition to the program of making detailed investigations of all CO accidents, the bureau began to press for improved legislation in the field.

A 1951 ordinance requires every new and existing gas-fired room and water heater, regardless of size, to be connected to an approved chimney in an approved manner.

In February 1954, an ordinance was adopted requiring all heaters sold in the city to be vented, with proper chimney connections. Local merchants were forbidden to sell any gas heaters except brands carrying the blue star seal of approval of the American Gas Association. All heaters sold were required to have approved gas pressure regulators.

All these measures tended to improve the situation, but the bureau warned that they were still not adequate to combat carbon monoxide. Then, on the day after Christmas, 1954, carbon monoxide claimed two more victims, sisters, ages 10 and 13. This tragic accident now is considered the "CO war proximate cause." It led to swift enactment of the sealing-out ordinance, the "declaration of war," in less than a month.

This ordinance is now the city's strongest weapon in the Gas Safety Inspection Program. It permits the city heating inspectors to place a mechanical seal on gas heaters found hazardous by test, without prior notice to the owner of the premises or equipment. In addition, they may install a mechanical seal for non-compliance with an order to correct defects in heater installation.

Standard equipment used by Bureau inspectors to determine if carbon monoxide is present in the air is the CO Tester, manufactured by Mine Safety Appliances Company, Pittsburgh.

This tester is a glass tube containing a granular, yellow chemical which reacts to carbon monoxide. A rubber aspirator bulb similar to that of an atomizer draws air through the tube. If carbon monoxide is present, the yellow chemical turns color ranging from light to dark green depending on how much CO is in the air. A color chart is used for comparison with the color in the tube to show the percentage of CO.

The Bureau's personnel makes all accident investigations, as well as "spot" inspections, in answer to calls from the public. All city inspectors receive technical information from the Bureau. In order to keep the public alerted against "The Silent Killer," the Bureau works closely with press, radio and TV outlets.

Promotions this year included an area-wide "Check Your Chimney Week" and a special building-by-building inspection program, authorized by City Manager C. A. Harrell.

"Check Your Chimney Week"

The "Check Your Chimney Week," held in January, was cosponsored by the City, the Greater Cincinnati Safety Council, the Cincinnati schools, retail grocers and the Cincinnati Gas and Electric Co.

More than 150,000 information "task sheets" were delivered to area homes, showing proper procedure for checking and cleaning chimneys and gas appliances. The "task sheets" were distributed through school children, and in some districts, more than 60 per cent were returned to schools, indicating that the safety tasks were completed by parents.

The building-by-building inspection program indicates that more than 1,500 defective heaters were corrected of which about 200 have been sealed out of service.

Despite the conscientious work of the inspectors, firemen under Fire Chief Barney Houston, and other city employees, there were 14 deaths reported from CO in Cincinnati last year, with 63 other persons overcome but revived. Since 1951, 64 persons were reported to have lost their lives or were found in critical condition, and 307 persons were overcome.

One of the major jobs in the "war" is the policing of several hundred retail outlets which sell heaters. When the ordinance was adopted making it illegal to sell unvented heaters, spot checks were made and literature distributed by the Bureau.

Only one illegal heater found

A newspaper reporter, posing as a factory worker, visited store after store trying to buy an illegal, unvented heater. At the end of the day, weary and footsore, he was able to report that he found only one.

Bureau inspectors discovered only two illegal sales, both by the same dealer. He was brought before municipal court and fined $50 per heater.

Another dealer said "I got stuck with 30 of them but I wouldn't take the chance of selling one."

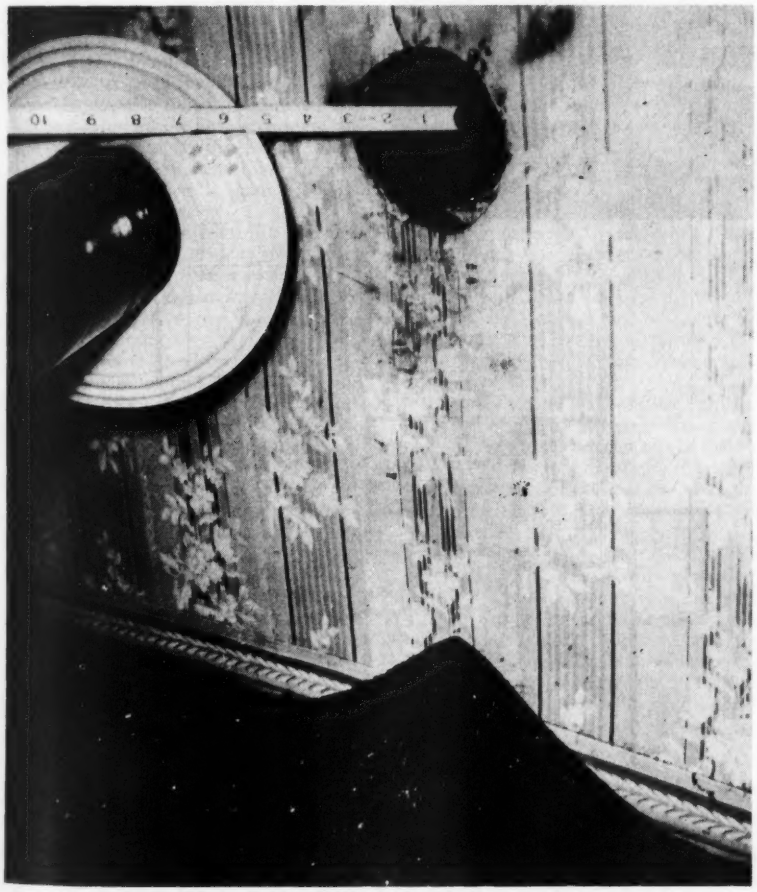
In one apartment house, 12 chimneys were ordered rebuilt for safety and five obsolete heaters were condemned. In another apartment, a heating inspector found four children sick and nauseated by carbon monoxide. The heater vent pipe ended in a solid brick wall!

On a routine inspection of a new house, the heating inspector noticed that one wall was blackened with soot. He discovered that the furnace was incorrectly constructed, permitting gas fumes to leak into the living area. Immediate orders for correction were sent to the contractor, who cooperated. In addition, he reported that eight additional furnaces found in his shop would be corrected before installation in homes.

Use of the tester indicated fumes spilling into the basement of another home where everything seemed to be in order. Careful investigation revealed that what appeared to be a chimney was really only an ornamental edifice.

Cincinnati seems to be winning its "war." A graphic portrayal of CO accidents shows a decided downward tendency.

From the experience of the Department of Safety with the problems of carbon monoxide hazards, it can be said that there is no such thing as a permanent correction. Accidents will happen in the future. But in Cincinnati they figure if officials and citizens will cooperate, continue to be vigilant, and observe safety precautions, the enemy, carbon monoxide, can be kept in retreat—permanently! □□



Death came to two elderly Cincinnati residents because of this stopped-up flue. Note the soot which fell from the chimney hole when the flue pipe was removed. The chimney was used for a coal heater before the gas heater was installed

Hayward Has Cure for Wayward Growing Pains

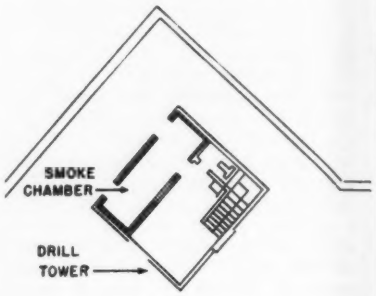
THE CITY OF HAYWARD, CALIF., situated about 15 miles from Oakland, has experienced growing pains in recent years that have strained the fire protection facilities. The city officials have been striving to keep abreast of the community growth but the problem is difficult. The population of the city has tripled since 1950, standing today at 52,000, and continues to increase.

In an attempt to keep pace, the city has embarked on an ambitious building program designed to provide adequate protection for the community and modern facilities for the fire department. One new fire station was completed in 1956 and two more are under construction. At the same time recommendations have been made for the relocation of the present headquarters and Chief Matthew Jimenez is hoping this can be accomplished in the near future.

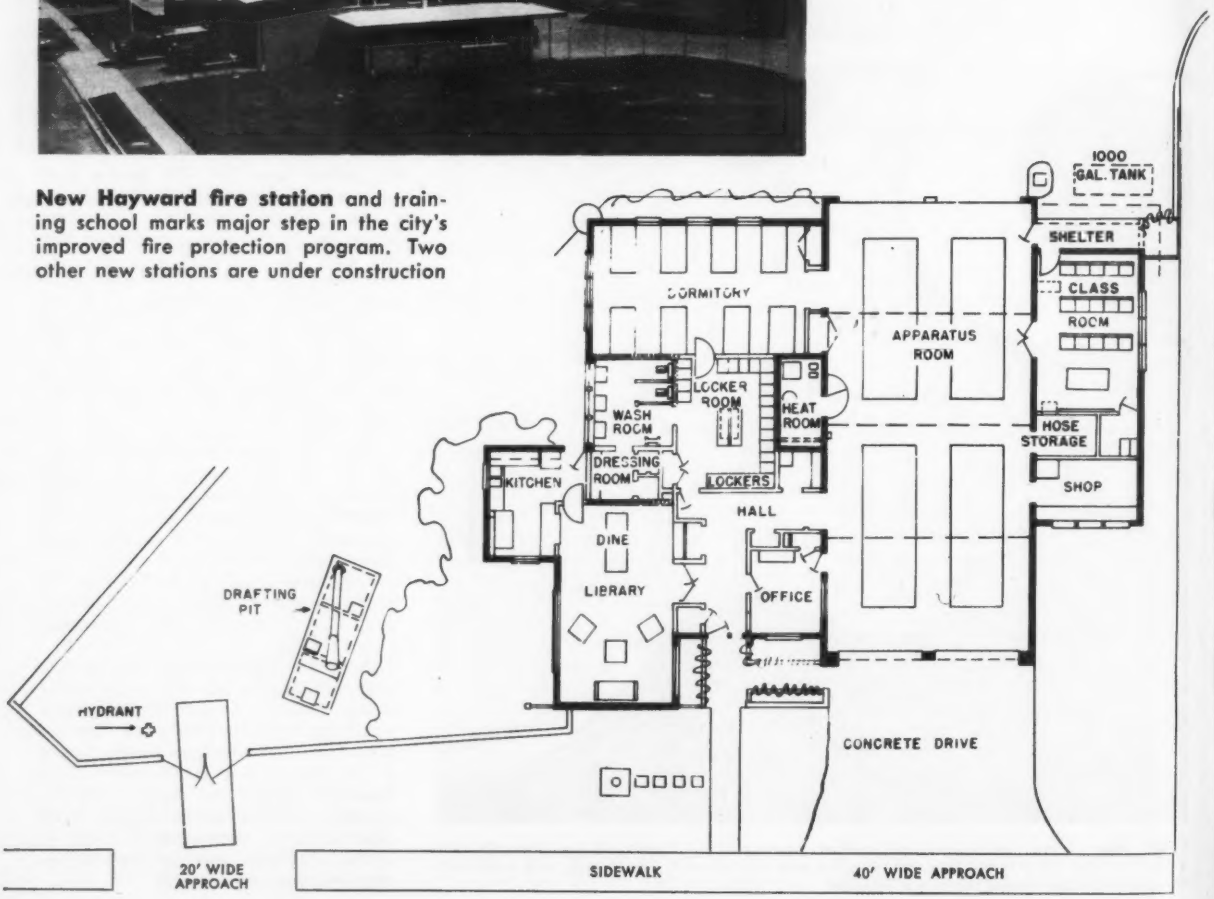
Adding to the complication is the requirement of expanding the department as the new stations are completed. When Station No. 2 was approved, it was necessary to purchase apparatus and enlist additional manpower to staff the new station. At the same time it was planned to include a training school on the site in order that all the members of the department could be trained and kept at a high level of efficiency.

That the city is meeting the challenge is evident from the results obtained in the new station. The total cost, including the building, training grounds, all furnishings and two pieces of apparatus amounted to $135,000. The apparatus consists of a 1000 gpm pumper and a

New Hayward fire station and training school marks major step in the city's improved fire protection program. Two other new stations are under construction



REAR ENTRANCE FROM STREET AND PARKING



200 gpm squad truck, both radio-equipped.

The main building is constructed of red key brick and provides space for the equipment of Engine No. 5 and Squad No. 1, as well as living quarters for the crews and classroom space for the training school. The station is set back 28 feet from the curb line to allow ease of response while a rear entrance permits the apparatus to drive directly into position on the apparatus floor without backing up, eliminating one accident hazard. Both front and rear apparatus doors are of the overhead type.

The entire station is designed for comfort, convenience, and efficiency. All hallways leading from the interior rooms to the apparatus floor are fitted with double swinging doors to prevent bumping of the men when responding to the apparatus. Every section of the building is linked with the office by an intercom system. The small wing containing the classroom, also provides space for training storage, hose storage and a small work shop.

The entire rear and side area of the station grounds is paved with concrete providing an excellent drill yard, with ample space allowed for parking members' cars. The drill tower is located near the rear of the area and is of wood frame with brick construction. A smoke chamber, inside stairs, fire escape, exterior standpipe and various door, window and roof combinations are provided for practice fire fighting. Near the front entrance of the drill yard is a drafting pit for use in pumping drills and tests.

Plans for Stations No. 3 and No. 4 are similar in detail without the drill school facilities and all provide the rear ingress of apparatus to the station. □□

I.A.F.C. Board of Directors Meets

The mid-winter meeting of the Board of Directors of the International Association of Fire Chiefs was held at the Concourse-Plaza Hotel, New York, N. Y., January 16-18, with Chief Wayne Swanson of Rockford, Ill., presiding. A number of invited guests attended the open sessions.

Among the more important measures taken by the Board were:

Appropriation of funds for study of the possibilities of a broad educational and training program on fire department administration, a project launched by former IAFC General Manager John Gerletti; also funds for furthering volunteer-IAFC relations.

Ratification of the lease for the new headquarters offices at Madison Avenue and East 37th Street, Manhattan.

Preparation of preliminary plans for the 1957 Conference to be held in New Orleans.

Increase in the registration fee for the annual conference to $10.00 for man and wife, with $5.00 per person for each additional member of the family or guest.

Decision to hold the 1958 Conference at Los Angeles, Cal., the dates to be announced later.

Appointment of a number of new committees and new chairmen for most continuing committees.

Consideration of a number of changes in the by-laws and constitution.

Review of the membership situation and proposal to increase the present total.

National Board Luncheon

On Thursday, January 17, the IAFC officers and directors and invited guests were the guests of the National Board of Fire Underwriters at a luncheon at the Concourse-Plaza. Included among the guests were Thomas P. O'Brien, deputy chief in charge, Bureau of Fire Comunications and Martin Scott, fire marshal of the New York Fire Department; Percy Bugbee, general manager, National Fire Protection Association and other notables.

After welcoming the guests, John Neale, chief engineer, NBFU, who presided, posed a question for the members of the Association who were present.

It is encouraging to note for the first time in many years the loss of life by fire has dropped, said Mr. Neale. It isn't a very big drop, he added, but it is a good indication that the increased inspections being made by the nation's fire services are paying off. This is also reflected, he believed, in a reduction in the number of fires. However, he was concerned with the increase in actual fire losses, which apparently are continuing their climb and have now reached an all-time high.

"Is this due to the inflationary value of the dollar, or to what?" asked Mr. Neale, pointing out that we seem to be having more big fires and more costly fires. "Perhaps you men here can give me the reasons. Is it delayed discovery? Are the shorter working hours and the fact that some firemen are holding down outside jobs responsible?"

Fire Chief William Miller of Los Angeles and others expressed the opinion that work done by firemen on the outside had no bearing on large losses. To admit that it does is to admit that the efficiency of the fire service has fallen, said Chief Miller, who attributed the main reasons to faulty design and construction of our buildings and to the pressure of modern production which encourages carelessness. The big answer, he maintained, is public education. Firemen should talk to the people, he contended. Plant management and watchmen should be educated to the value of preventing fire and of safeguarding buildings and people against fire. "Firemen are getting better in their work," Chief Miller insisted.

Other chiefs took a different view. Chief Newton Wheeler of Miami, believed that shorter hours and outside employment do affect the efficiency of a department. Time away from jobs means loss of contact with the fire department, he said, giving as his answer the need for stepped-up training.

Fire Chief William Fitzgerald of Seattle, Wash., claimed that where there is divided interest, efficiency must drop. He urged installation of more automatic fire detection and fire extinguishing systems, such as supervised central station service and sprinklers.

Chief R. C. Malmquist, Minneapolis, second vice-president of the IAFC, also urged more and better educational programs and training of management, including watchmen, in fire safety. □□

Change in Vehicle Law Recommended

The arrest of a New York State fire chief for speeding while answering an alarm of fire has revealed a peculiar quirk in the state's vehicle and traffic laws. (See FIRE ENGINEERING, January 1957, page 78) According to an opinion of the Counsel to the Commissioner of Motor Vehicles, a fire chief could not be charged with speeding if he was driving an official "fire vehicle," but could be if he was driving a privately-owned car over the speed limits.

As a result, the Joint Legislative Committee on Fire Laws has decided to recommend to the 1957 State Legislature that it amend the law to permit fire and assistant fire chiefs, county and deputy county fire coordinators, county and assistant county fire marshals and ambulance operators to exceed regular speed limits both in "fire vehicles" and in other vehicles while engaged in emergency work provided a distinctive colored light is being displayed, a siren or bell sounded, and the vehicle is driven with caution in the circumstances.

Senator S. Wentworth Horton, Suffolk County, Chairman of the Committee said, "Most of the fire officials in the State use their own cars for official business. Only the larger cities, villages and fire districts have an official chief's car which could be classed as a 'fire vehicle'. . . . The Joint Legislative Committee on Fire Laws believes that the purpose of the call is the important thing and that the power to exceed normal speed limits in emergencies should not depend on who owns the vehicle."

Telephone Service Restored

Portsmouth, Ohio, telephones were restored to service on December 16, 1956, after 61 days of silence. It was estimated that 4,500 of the 17,000 telephones on the automatic exchange were in operating condition. The remainder were still out of service due to cut cables and weather damage.

The residents of Portsmouth and Scioto County have been without telephone service as a result of a strike by the Communication Workers of America-CIO against the Ohio Consolidated Telephone Co. Major emergency facilities, including the fire department phones, were among those returned.

New York Department Conducts Training Drills Via Public Radio

The New York City Fire College has taken an unusual step forward in the training of firemen by means of a new series of radio programs broadcast over commercial radio station WNYC.

The programs are directed primarily at firemen, both in their fire stations and in their homes, but the public is encouraged to listen and it is estimated that about 100,000 people hear the broadcast each week.

The fact that radio station WNYC is municipally owned and operated facilitates this particular type of programming. However, it is the opinion of those responsible for the project, that the same idea may be adopted by other departments through their regular local commercial broadcast stations which may be able to schedule the program as on public service time.

The subject matter of each program in the series, although basically technical and designed to supplement the training of the firemen, is nevertheless presented in such a manner as to have an appeal to "the man-on-the-street." Included in the presentation are such subjects as community relations, inspection of target hazards, mechanical foam, communications, radiology, protective breathing equipment, safety practices.

The series is produced by the Fire College, commanded by Deputy Chief Otto H. Knochenauer, whose assistant is Acting Deputy Chief Joseph F. Connor. The writing of scripts and the directing of the presentations is done by Captain William E. Clark and Lieutenant Frederick Daniels. Insofar as possible, programs are presented in a dramatic form with all parts played by members of the department. In this connection, the department has had the assistance of the station's staff, Seymour Siegel, program director and Felix Leon, continuity director.

The radio series was outlined by Fire Chief Edward Connors in conference with Captain Clark and Lieutenant Daniels. The subjects to be covered were determined and an outline or rough script for each was prepared.

Lieutenant Daniels then completed the final script which was cleared for approval through channels.

When the final script was approved a rehearsal was held by the members of the Fire Prevention Education Unit under Lieutenant Arnold Weintraub. These men acted out their parts in each presentation, under the direction of Captain Clark, after which the final editing was done in order to meet the precise timing requirements of the radio station.

When all was in readiness, the men assembled at the studios of the broadcast station and a tape recording of the program was made.

Several company officers in the department have made tape recordings of the program, using their own personal equipment. The tapes prepared from the regular program are then used in company drills as review material. If a fireman missed hearing a broadcast session he can be brought up to date with the current material by listening to the recorded program on the tape.

Public response reportedly has been greater than anticipated. Letters received by the radio station and the fire department indicate that many listeners find the programs stimulating and educational. This is a testimony to the public relations value of giving householders and business people an insight into the techniques and methods used by the fire department, and the reasons for their use.

Encouraged by the reaction of both fire fighters and the public to this novel experiment, the Fire College is now preparing a second series to follow the present schedule. It is hoped by those in charge of the venture that in the near future the same, or similar instruction-education programs will be presented on television. At present the audio presentation can be heard over WNYC-AM, 830kc and WNYC-FM, 93.9mc, every Saturday from 11:00 to 11:15 a.m.

Research activities in the Fire College Library come to a halt when the "Fire College Review" goes on the air. Listening to the program are, from left to right, Firemen David McElroy, Arthur Lester, Robert Burns, Honorary Battalion Chief Clarence Meek, Librarian, and Fireman Alfred Clifford—*New York Fire Department photo*

New Aircraft Fuels Sought—May Develop New Hazards

The National Advisory Committee For Aeronautics has been conducting research for some time on new fuels for aircraft. Some rare fuels have already been produced in the laboratories but are unavailable commercially.

The objective is to obtain new liquid fuels for airplanes and guided missiles which will occupy much less space for a given energy output than any existing fuel. If successful on a large scale this would free the nation's defense forces from a complete dependence on petroleum and the possession of petroleum reserves.

In addition, the new fuels would serve to increase the range and speed of aircraft which are limited at present by the power available from the present fuel load. Aeronautical engineers have become increasingly aware of the need for new fuels if the future aircraft are to have the very long range required for modern and future flight.

The N.A.C.A. has stated that in addition to being more powerful and using smaller space for storage than conventional fuels, all new fuels must have desirable handling properties.

Fire service officials are keeping an eye peeled for possible new and severe fire and explosion hazards which may be a concomitant of the sought-for more powerful propellents.

New Extinguisher Chemical

A new boron chemical compound called "TMB" has been introduced for use on fires involving metals such as magnesium, titanium and zirconium. A colorless liquid containing a high percentage of trimethoxyboromine, it is said to be effective on such fires and also useful in controlling the burning of sodium and sodium-potassium alloy.

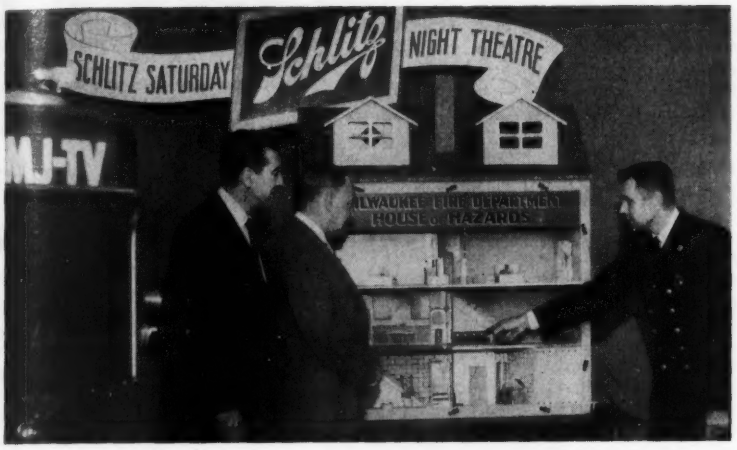
The "TMB" when applied to a metal fire burns to give a coating of molten boric oxide over the metal, which excludes the air and extinguishes the fire. By proper application, some metals which are exceedingly flammable under certain conditions can be controlled.

Capsule Accounting of Strength

The Los Angeles County Fire Department issues an unusual monthly administrative report titled "Departmental Statistics." The reports constitute a running account of the manpower and equipment strength of the County Fire Department, as of the first day of each month. No attempt is made to publish fire losses or fire extinguishing operations.

Headings of the various sections of the report cover fire stations, apparatus, personnel, communications, forestry, area served, and miscellaneous. The accounting, which is the work of the department's Public Relations Division, provides a wealth of information in condensed form.

Milwaukee Fire Department Reaches TV Viewers



The Milwaukee Fire Department was able to reach an estimated one million television viewers Saturday evening, November 10, with tips to reduce fire danger in the home. The time was made available to the department by the Jos. Schlitz Brewing Company during intermission on the "Schlitz Saturday Night Theatre," carried regionally over WTMJ-TV, Milwaukee. Battalion Chief Edward McCabe (right) points out common home fire hazards in a cutaway model. Other participants in the public service feature were (left to right) Jack Brand, Schlitz master of ceremonies and Bruce Kelley, chairman of the Fire Prevention Section of the Milwaukee Chamber of Commerce.

Bravery Grows In Brooklyn

There comes a time in every fire officer's life when he must make a serious decision that may affect his own life and the fate of others.

Such a moment faced Lieutenant Alexander Brown of Engine Company 201, Brooklyn the night of January 11th last.

Shortly after 6:00 P.M., Baldo Marchese of Brooklyn, was driving his oil truck uphill on 50th Street, between Fourth and Fifth Avenues, when he discovered the vehicle, loaded with 1,000 gallons of fuel oil, was on fire. Marchese slammed on the brake, jumped from his burning rig, and ran a block to turn in a box alarm.

He returned to find his truck engulfed in flames, rolling down the hill toward Fourth Avenue, one of Brooklyn's busiest thoroughfares. At the same time, a pumper from Engine 201 commanded by Lieutenant Brown responding to the alarm, turned into 50th street from Fourth Avenue.

The lieutenant made a quick decision. He ordered his driver, Edwin Larsen, to stop the engine in the path of the burning oil truck. Brown, Larsen and two other members of the crew, leaped off just as the oil truck crashed into the pumper, and stopped.

If the burning vehicle had continued on into Fourth Avenue it might conceivably have struck pedestrians or rolled into a car or building, causing an oil explosion and fire.

Fire fighters, using chemicals, put out the blaze in short order. Although the oil tanker was badly damaged, most of the oil was saved. The front end of the pumper suffered "considerable damage."

AEC To Train Fire Instructors in Radiation Hazards

The Atomic Energy Commission has announced a cooperative instructor's training program in the fire hazards of atomic energy. This program is offered to fire colleges and training schools conducted by states and large municipalities.

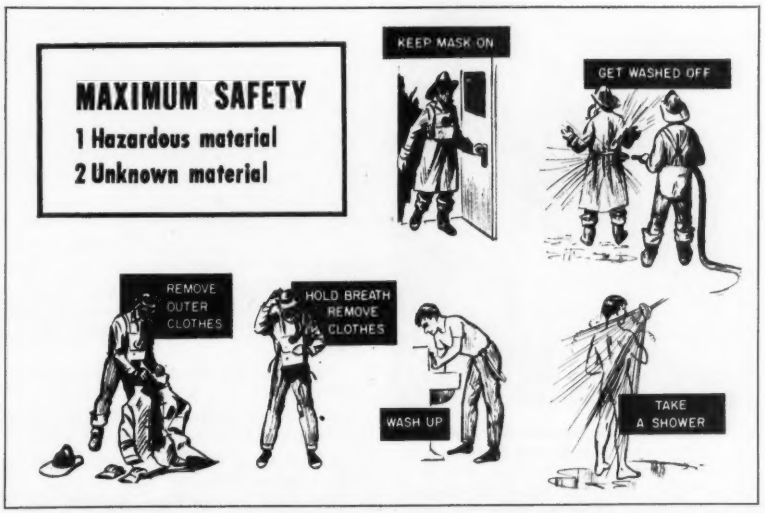
The three-day course is intended to prepare instructors in such schools to integrate the hazards of the peaceful development of atomic industry into the curricula of their schools, relating the hazards of this new industry to the other hazards the fire fighters face in their daily work.

The material is presented in a simple, non-technical manner; the course can be taken with profit by an instructor qualified to teach classroom subjects irrespective of any background in physics.

Subjects covered will include the distinction between internal and external radiation hazards, contamination control, the possibility of accidental nuclear explosions, associated non-radiation hazards, prefire planning, and case studies of various types of hazard situation. The course will include practical fire situations involving radiation hazards, using the fire training facilities available at the various schools. Each student will be provided with sufficient reference material and training aids so that he will be able, upon completion of the course, to instruct fire departments in this important field.

There is no charge for the course. Directors of fire schools wishing to have such a course conducted at their school during the year 1957 or 1958 should write prior to March 31, 1957, to Mr. Daniel F. Hayes, Chief, Safety and Fire Protection Branch, U. S. Atomic Energy Commission, Washington 25, D. C., in order that schedules may be arranged. It is expected that fire schools in the larger cities will invite instructors from nearby smaller cities to attend the classes conducted at their school.

Francis L. Brannigan, a safety engineer on Mr. Hayes' staff, will be in direct charge. During World War II, Mr. Brannigan was in charge of a Navy shipboard fire fighting school. After the War, as Assistant Fire Marshal of the Fifth Naval District, he organized the Navy's first structural fire fighting school at Norfolk, Virginia. Since 1948, he has been with the Atomic Energy Commission and has served as Assistant Chief and later Chief of Safety and Fire Protection for the New York Office. He has specialized for several years in the problems of translating the facts about the hazards of radiation into language understandable to the average man.



Charts used in the industrial radiation training course present complete instructions in terms that any fireman can understand. An advanced knowledge of physics or mathematics is not necessary for successful completion of the course

Life Nets Used In Fairbanks, Alaska, Apartment Fire

A basement fire in the Northward Building, a block-long, eight-story apartment building in Fairbanks, Alaska, threatened more than 300 persons on January 13, 1957. The smoky blaze created a near panic and gave firemen several hours of gruelling work.

One man died from smoke inhalation while trying to make his way to the roof of the building and a young woman suffered a fractured spine on a three-floor jump.

Using loud speakers, firemen warned the people standing on the window sills not to jump but to wait for rescuers to reach them. Cooler-headed tenants also endeavored to stem the panic but some occupants refused to heed the warnings and the firemen resorted to nets to catch them.

One woman jumped from the fourth floor with her six-months-old baby in her arms. The infant was unhurt but the mother received a broken leg. Another mother dropped her three-year-old daughter from the sixth floor into a life net held on the roof of a second-floor projection of the building. The child was unhurt but the mother was injured when she followed the child.

The fire apparently started in a locker room in the basement and quickly filled the building with smoke. The main body of the fire was confined to the basement. The blaze cut off electricity to the building services, which contributed to the near-panic. Firemen, aided by local and territorial police and Air Force personnel from nearby Ladd Air Force Base entered the smoke-filled building and rescued the frightened tenants. Many of the panic-stricken had improvised bed-sheet ropes and were preparing to use them in sure-suicide escape attempts.

Firemen were hampered by outmoded equipment. The trading area, including the city of about 30,000 persons, has grown so quickly that the fire department has been outmatched in the forward progress.

A resident of the Northward Building, Roy Tietjen, was credited with keeping panicky people from jumping from this Fairbanks, Alaska, apartment house. Standing on a window ledge as smoke filled the eight-story structure, he pleaded with the panic-stricken residents not to use the bed-sheet ropes but to wait for firemen to rescue them

Conelrad Suggested For Storm Warnings

A plan involving participation by the Conelrad system of radio broadcasting stations in weather and disaster warnings to the general public has recently been suggested to the FCC by Mr. Ero Erickson, Chairman, Illinois Chapter of Associated Police Communications Officers. Mr. Erickson said the plan had merit, especially in connection with the evacuation of school children to safe places during the tornado season. The same manner of notification for the general public has been discussed with representatives of an electric power company who feel that the announcements during a major power failure would lessen the strain on telephone facilities caused by people calling the power company, police and fire departments about the failure.

The APCO official said to effectuate a warning, "It would merely be necessary (for a Conelrad station) to go through the carrier break procedure to be followed by a public service announcement by the key station." This procedure would alert normally muted Conelrad receivers, "which appear to be commercially available at this time."

New York Contracts For Fireboats

The John Mathis Company of Camden, N. J., lowest of four bidders for the contract to construct two fireboats, was awarded the contract by the Department of Purchase, acting for and on behalf of the New York Fire Department. The award was made on the basis of a bid of $884,638.90 for one boat and $1,692,482.60 for two boats. The Mathis Company built the Fireboat "John D. McKean" during the summer of 1953.

The Board of Estimate has authorized $1,647,000 for two fireboats. In October 1955, the Board approved a contract for the services of H. Newton Whittelsey, Inc., Naval Architects and Marine Engineers of 17 Battery Place, for the preparation of drawings, specifications, supervision of construction, etc., of three fireboats. The Board also approved of a report, plans and specifications and estimate of cost of $835,400 for a typical fireboat.

The plans for the typical fireboat provide for 105 feet 6 inches in length; 25 feet 6 inches beam; 8 feet 3 inches main draft; top speed of 13 mph; total pumping capacity of 8,000 gpm at 150 psi. or 4,000 gpm at 300 psi.

The main propulsion engines are to consist of two independent, non-reversing diesels capable of 500 shaft hp. each through reduction gears to two controllable pitch propellers. The pumping and the propulsion systems are independent of each other and, as a result, 100 per cent propulsion power and 100 per cent pumping power is available simultaneously.

The contract provides that the fireboats be constructed within 100 miles of New York's City Hall and be delivered one year hence.

Jerry Daly

Massachusetts Chiefs Hold Annual Conference

The Massachusetts Fire Chiefs Club held its Twenty-Fifth Annual Conference on January 10th at Worcester, Mass. in cooperation with the Union Agricultural meetings.

State Fire Marshal Robert M. Tappin presided over the day-long session. Papers were read by Chief John F. Dowd of the Westover Field Air Base Fire Department; Francis Rimbach, Director of Agricultural Development, New England Electric System; Raymond J. Kenney, Director, Massachusetts Division of Forest and Parks; Chief Donald Holbrook, Fitswilliam, N. H.; and George Moore, Public Relations Director of the First National Stores.

The session was topped off by a panel discussion on "Loads and Overloads of Fire Apparatus" under the moderation of Sumner Herman, New England Fire Insurance Rating Association. Panel members included; Joseph Whitcomb, President of Maxim Motors; Perry Johnson, Fleet Service Engineer, Ford Motor Company; and Robert F. Ulm, President, Massachusetts Fire Chiefs Club.

FCC Denies Burglar/Fire Alarm Service

The Federal Communications Commission in October denied petitions by two companies who had proposed to develop radio detection and warning devices in the 152-162 mc band. The systems would automatically transmit radio warning signals to police and fire departments for burglar and fire alarm purposes.

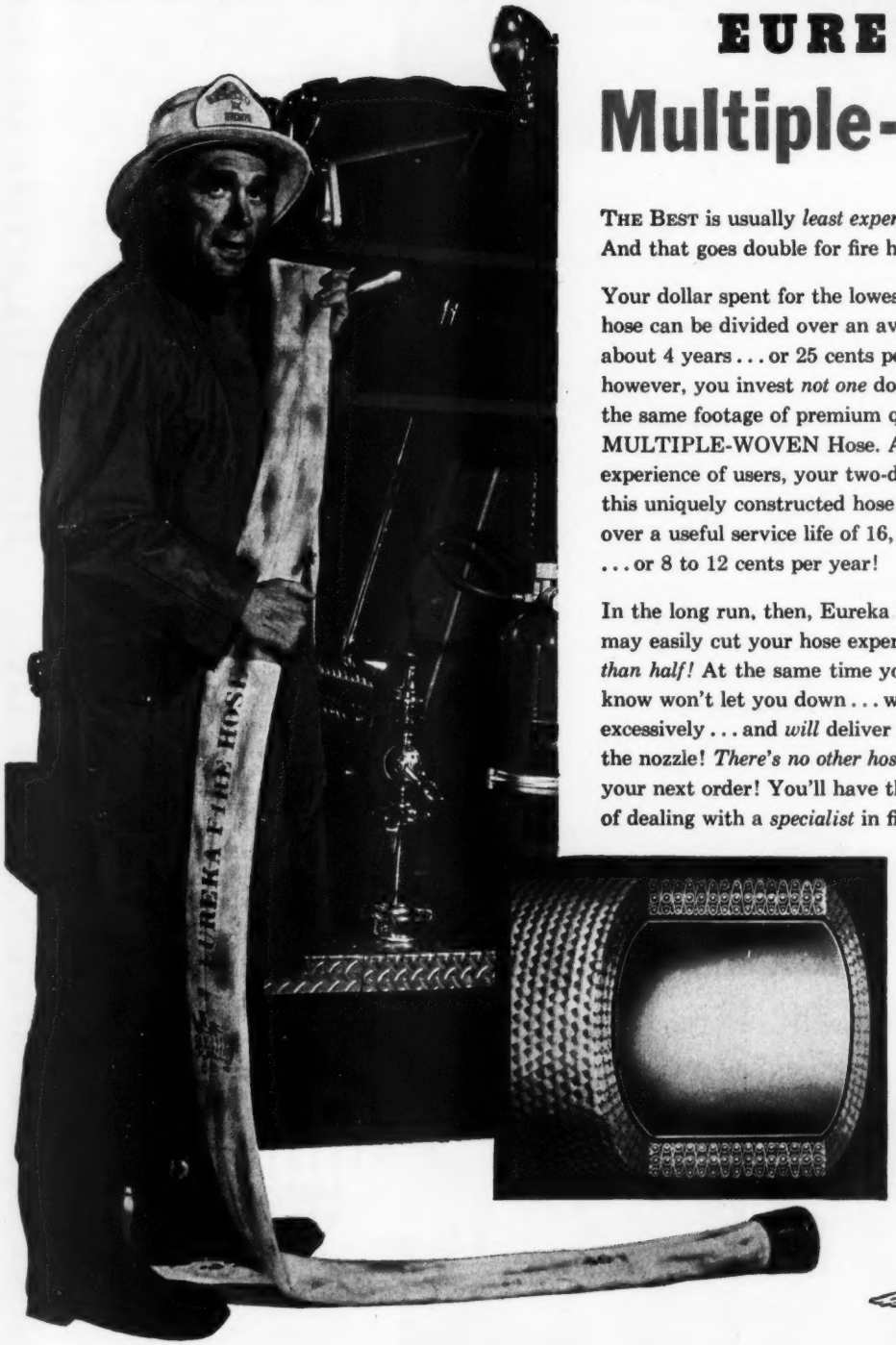
The FCC stated, ". . . we are now facing a serious problem in the VHF region of the spectrum in finding the means to meet the growing requirements of the land mobile services, which, by their very nature, must use radio. It does not appear to us to be in the public interest to permit experimentation which would encourage the development of this new type of fixed service in the VHF region of the spectrum."

The Commission further declared, "In the assignment of frequencies, the Commission has followed a general policy of prohibiting domestic fixed operations below 890 mc in order to relieve the congestion below that frequency," and, "We are not sufficiently convinced of a public need for this new service which warrants a deviation from, or an exception to, our present general policy."

Let's talk DOLLARS and SENSE about

EUREKA

Multiple-Woven



THE BEST is usually *least expensive in the long run.* And that goes double for fire hose! Here's why:

Your dollar spent for the lowest-priced approved hose can be divided over an average service life of about 4 years . . . or 25 cents per year. Suppose, however, you invest *not one* dollar but *two dollars* in the same footage of premium quality Eureka MULTIPLE-WOVEN Hose. According to the experience of users, your two-dollar investment in this uniquely constructed hose may well be spread over a useful service life of 16, 20 or even 24 years . . . or 8 to 12 cents per year!

In the long run, then, Eureka MULTIPLE-WOVEN may easily cut your hose expenditures *by more than half!* At the same time you'll have a hose you know won't let you down . . . won't warp or writhe excessively . . . and *will* deliver maximum pressure to the nozzle! *There's no other hose like it.* Specify it on your next order! You'll have the added satisfaction of dealing with a *specialist* in fire hose!

All plies of Eureka Multiple-Woven Hose are woven *and interwoven* simultaneously, leaving no space between plies for collection of water, dirt or mildew.

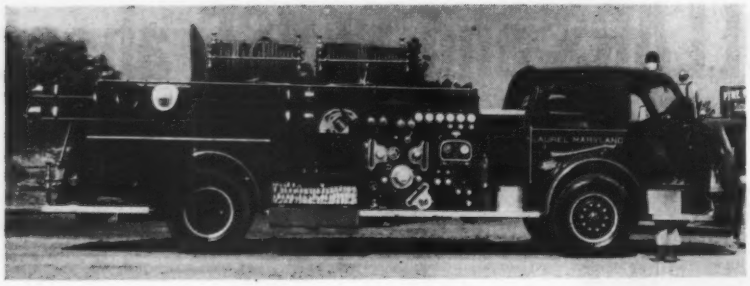
"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Cotton Rubber-Lined Fire Hose

1 Market Street • Passaic, New Jersey

Division of United States Rubber



Unusual Pumper in Laurel, Maryland

The Laurel Volunteer Fire Department No. 1, Inc. is an exceptionally well equipped department numbering four pumpers and an aerial ladder among its apparatus. One of the pumpers is unusual in its design and the method of carrying equipment.

Built by the American-La France Corporation, it mounts a 750-gpm pump, a 1,000-psi high pressure pump driven by the power take-off and carries a 300-gpm portable pump. Four booster reels carry 1,500 feet of 1-inch hose and in addition, 1,200 feet of 1½-inch hose and 1,000 feet of 2½-inch hose is carried. All hose not on booster reels is enclosed in compartments.

The booster tank carries 600 gallons of water and 50 gallons of wetting agent in a stainless steel tank. The versatility of the apparatus is enhanced by the many complex pumping operations that may be carried on at one time.

In addition to the standard complement of ladders and suction hose, together with miscellaneous fittings and small tools, the vehicle carries four demand masks and an air compressor for refilling the mask tanks on the spot, a chain saw, and salvage tools and equipment.

The unusual design and excellent construction of this unit, together with the spotless care given it by the volunteers has enabled the company to take the highest awards whenever it appears in competition.

Radar Equipment Serves Fireboats

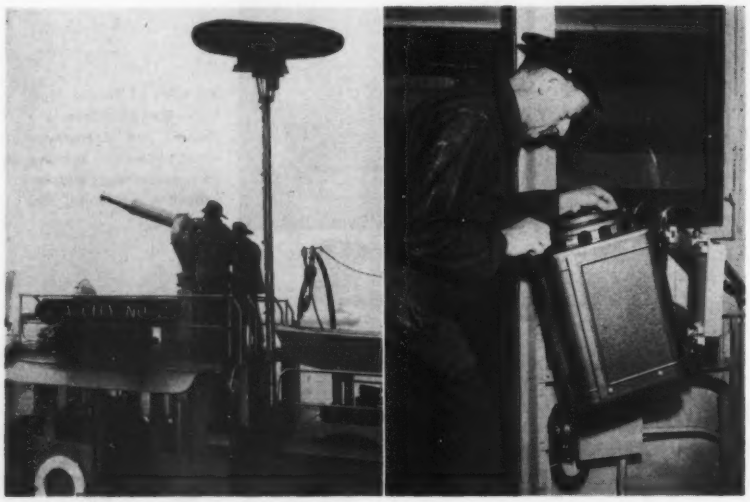
Installation of new, short-range radar has been completed on two of the Los Angeles City Fire Department's three fireboats at Los Angeles Harbor.

The sets, which were installed at a cost of $15,300, are expected to aid the waterfront fire fighting units immeasureably in finding locations in heavy fog which often blankets the area.

The radar has a minimum range of only 30 feet, a range discrimination of 10 yards, and a bearing discrimination of 1.2 degrees. This means that two objects can be as close together as 10 yards or differ in bearing by no more than 1.2 degrees and still be shown on the radar screen as clear separated.

The radar installations are among the first on U. S. civilian fireboats.

—Cliff Dektar



Left: New radar mast and installations behind pilot house on L. A. City Fire Department's boat No. 2. Boat is based on Terminal Island in Los Angeles Harbor Area. Right: Pilot checks radar in chart house—*L.A.F.D. Photo by Burton*

Kansas City Switches To 3-Platoon System

The Kansas City, Mo., Fire Department switched to the three-platoon system effective October 1st, according to an announcement by its chief, Edgar M. Grass.

The new setup resulted in nine new chiefs, 55 captains and 80 drivers, the biggest promotion list in the history of the department.

Kansas City firemen now work 56 hours a week instead of 67.2 as before. They are on duty 24 hours and off 48. Their shifts formerly ran 24 hours on and 24 hours off.

Herbert J. Hughes was appointed deputy fire chief after having served as a battalion chief since November, 1950 and Cecil Buis was appointed battalion chief-supervisor of fire training. He formerly was drillmaster.

Other new chiefs include: Stanton M. Gladden, George H. Raines, Marvin L. Tomlinson, Roy Brown, Wallace A. Parker, John H. Waas and Emmett Schmitt.

The Kansas City Fire Department now has three deputy chiefs, 15 battalion chiefs and 132 captains, said Chief Grass.

Paul C. Ditzel

Inoculations Given Greenwich Firemen

Greenwich, Conn., firemen and police are being inoculated against polio and tetanus in a new program designed to protect the men who may be exposed to these health hazards.

The Greenwich Fire Department, under the command of Chief Stuart M. Potter, operates four ambulances and the Police Department one. In connection with this ambulance work, the members of both departments have been exposed to polio in the past. Fortunately none has contracted the disease.

The first inoculations were given by Fire Department Surgeon Dr. George L. Tunick and Police Department Surgeons Dr. C. Stanley Knapp and Dr. James V. Halloran, and Town Health Officer Dr. Erval R. Coffey, on the evening of January 9, 1957. At that time, 34 paid and 189 volunteer firemen and a large number of policemen received the anti-polio and anti-tetanus shots. The second and third shots will be given after an appropriate lapse of time.

Angry Suitor Charged With Murder, Arson

Police in Cincinnati, Ohio, filed eight charges of murder and one of arson against Arthur Lee Redmon following an apartment house fire in that city on November 12. Eight persons, seven of them children, were killed.

According to police, Redmon admitted starting the fire because he was a "little mad" at a woman friend. He said he decided to scare her by starting a fire in the three-story brick building where she lived. The woman and two other persons leaped to safety but two of her children were among the victims.

Make yourself HEARD!

—without KILLING your voice.

When each second counts . . . Audio Hailer *projects* your commands and warnings . . . instantly . . . up to half-a-mile away. With voice amplification of *1000 times*—it enables you to *cut through* the racket! Audio Hailer is the *ONLY* electronic megaphone, with a genuine vacuum-tube amplifier. Yet it is completely self-contained, operates on dry batteries, weighs only 5½ lbs. Experienced Fire Chiefs and Safety Engineers have called it "the most useful single piece of equipment in the house". For more details, or demonstration, ask your fire supply dealer, or clip coupon below to your letterhead.
Audio Equipment Co., Inc.,
Great Neck, N. Y.

AUDIO
HAILER®

PORTABLE, SELF-CONTAINED ELECTRONIC MEGAPHONE

Amplifies your voice 1000 times!

AUDIO EQUIPMENT CO., INC., Great Neck, N. Y.

☐ Send brochure and price list on Audio Hailer
☐ Have your local dealer make demonstration

*FIRE CHIEF:*_____

*DEPT. OR COMPANY:*_____

*TOWN OR CITY:*_____ *ZONE (if any)*____ *STATE*_____ *(If)*

WHAT'S NEW

Among the Manufacturers

- products
- processes
- personalities

American Fire Apparatus Co. Opens New Plant

Reflecting the growth of its expanded sales volume, American Fire Apparatus Company recently relocated its Marshalltown, Iowa, manufacturing plant in new quarters on Highway 30 near Marshalltown. The new plant occupies over 7,200 square feet and, according to plant manager, D. R. Enos, provides more floor space and better facilities for production of modern fire apparatus.

In addition to the Marshalltown plant, American Fire Apparatus trucks are built at the main headquarters in Battle Creek, Mich., and in Stratford, Ont.

Portable Loudspeakers

Sound-Craft Systems, 661 Rochester Road, Pittsburgh 2, Pa., has announced four fully-portable, battery-operated loudspeaker systems for use where manpower or crowd control is needed. Self-contained, the units are especially suited for fire, police or civil defense activities. Descriptive folder may be had by writing the above.

Acme-Hamilton Appoints Furey

Miles J. Furey, Mayor of Yardley, Pa., has been appointed as sales representative for the Acme-Hamilton Rubber Mfg. Corp. in Philadelphia and Bucks Counties.

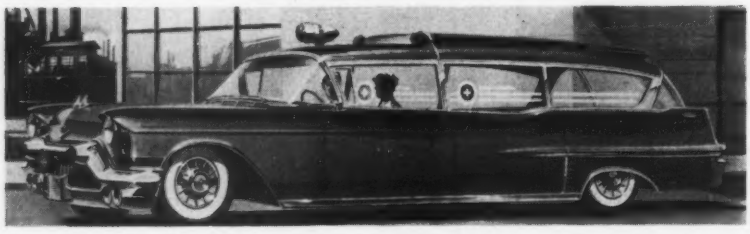
Carpenter-light Catalogue

The Carpenter Manufacturing Company, Somerville 45, Mass., has issued catalogue No. G-561 which describes the complete line of emergency lighting equipment offered. A copy may be obtained by writing directly to the company.

Christopher Co. Moves

The Christopher Company, Division of International Auto-Industries Corp. has moved to new offices at 100 Central Park South, New York 19, N. Y., Penthouse A. The company was formerly located at 66-70 Beaver St.

Restyled Ambulance Line Announced by Superior



Superior Coach Corporation's 1957 line of ambulances and rescue cars wears a new look. All three models in the new line have been completely redesigned and restyled to reflect today's passenger car styling and beauty, and in addition, provide additional headroom in the rear compartment.

Features include electric "Safe-T-Locks" which insure positive closure of all rear doors. Back-up lights which can be operated manually for convenience in night loading and large red reflector located on the inside of the rear door, for safety when the rear door is opened during night loading.

Motorola Announces Promotions

At a recent meeting of the Motorola Board of Directors, Paul V. Galvin was elected Chairman of the Board and was succeeded as President by Robert W. Galvin, formerly Executive Vice President.

Daniel E. Noble, Vice President, was elected Executive Vice President in charge of the redesignated Communications and Industrial Electronics Division, the Semi-Conductor Products Division and the Military Electronics Division.

Arthur L. Reese was advanced from General Manager of the former Industrial Electronics and Communications Products Department to Vice President and General Manager of the new Communications and Industrial Electronics Division. Mr. Noble and Mr. Reese will continue to serve in their present capacities as Vice President and General Manager and Vice President and Operations Manager, respectively, of Motorola Communications and Electronics, Inc., the wholly owned industrial sales subsidiary.

Pernot promoted by FWD

Lloyd L. Pernot has been named Director of Sales Engineering by the Four Wheel Drive Auto Co., Clintonville, Wis. In his new position he will supervise

all market specialists and the sales correspondence section. Mr. Pernot has been Transport Sales Manager since 1951 and he will continue to be responsible for transport market product development.

Aerial Intercom System

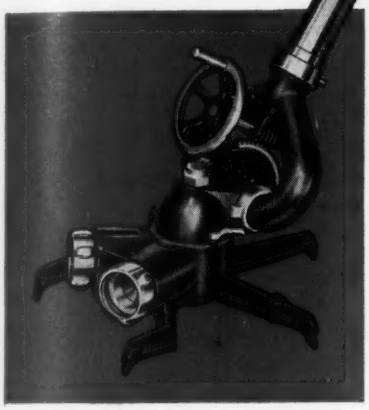
The United States Instrument Corporation, Charlottesville, Va., is investigating the possible use of sound-powered phones for a built-in intercom system on aerial ladders.

The present plans contemplate placing on ladders of over 50 feet extended length, a pair of wires terminating in a jack box at each end. Whenever it is required for men to work with the ladder, it would only be necessary to plug in a handset at each jack box and an independent communication system would be established between the tip of the ladder and the turntable. The use of the sound-powered phones eliminates the need for any additional power source.

The Corporation is well known in the communications field for its specialized equipment. At present it manufactures an

Specify AKRON

"AMERICA'S BEST FIRE EQUIPMENT"



TWO INLET MULTIVERSAL

Light weight — 55 lbs. Handwheel adjustment. Perfectly balanced. Relieves manpower for other duties. Low friction loss. Akron stream shapers for non-feathering stream. Can be used with FOG-HOG for complete versatility. Style #491.

"FOG-HOG" NOZZLE

DELUGE

With all-round indicator for preselection of stream. Tremendous gallonage and projection. Use on ladder pipes, deluge guns, deck pipes. All degrees of fog, straight stream or shut-off instantly available. Bind-free operation at all pressures. ROCKER LUG—available in 500, 1000, 2500.

"P.D.Q." NOZZLE

HOSE LINE

Adjustable through all angles of solid fog and straight stream. Akron quality ball shut-off. Guaranteed gallonage. Positive stream positioning indicators. Swiveling "ROCKER LUG" base — handle is always up. Corrugated no-slip grip. 1", 1½" and 2½" sizes.

"FORGEX" COUPLINGS

Drop-forged for strength. Light weight — perfect companion for light weight hose. "ROCKER LUG" — Higbee Indicators. Tapered hose bowl — stays on hose under all pressures. Unconditionally guaranteed to give complete satisfaction. Style #88

SIAMESE

Two and one-half inch FULL FLOW Ball-Valve Siamese. One 2½" female inlet . . . two 1½" male outlets. Solid red brass casting. Operating pressures to 500 lbs. The industry's best made and most widely used Siamese. Style #481.

UNIVERSAL THREAD ADAPTER

Instantaneous connection to all thread sizes. Your own thread on male end. Moveable bronze jaws provide adjustable female. Push handles together and watertight connection is made. Light weight — 7 lbs. No wrenches needed. Style #575.

SPANNER WRENCH HOLDER

Wrenches ready for immediate use. Complete with two No. 10 spanner wrenches. Wrenches always in place, one hand operation. Style #448.

AKRON BRASS

FIRE FIGHTING EQUIPMENT

AKRON BRASS MANUFACTURING CO., INC.
WOOSTER, OHIO

intercom system for use with gas masks, in addition to a complete line of sound-powered telephone systems for special commercial, industrial and military applications.

Traffic Control Kit Aids Firemen

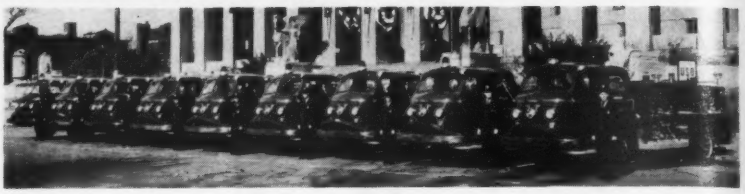
A portable emergency traffic control kit is being manufactured by the Lyle Sign Co., Minneapolis, Minn. Called the "Saf-T-Pak," the kit is all-metal and folds from suitcase size to a standing height of 46½ inches in less than a minute. Reflective sign messages, flip-out flags and red flasher lights are included to increase the night warning value.

Gamewell News Bulletin

The Gamewell Co., Newton Upper Falls 64, Mass., has begun publishing a regular news bulletin which features articles of interest to fire chiefs, fire alarm superintendents and others concerned with fire alarm communications.

Volume 1, No. 1, dated November 1956, consists of four large pages in three colors and contains news items, statistical information and engineering data on fire alarm systems.

New American La France Pumpers in St. Louis



The St. Louis, Mo. Fire Department recently placed in service nine new 1000 gpm pumpers built by the American LaFrance Corp., Elmira, N. Y. Equipped with 245 bhp engines, they feature "wrap-around" pre-connected hard suction. This design permits attachment of the suction to a hydrant on either side of the street with only a single connection necessary. The suction system includes the special check valve designed by St. Louis Master Mechanic Fred Witler and used on all the City's pumpers.

Aluminized Asbestos Cloth Announced

"Kamklad," a new protective, aluminized asbestos cloth said to reflect over 90 per cent of radiant heat has been introduced by Keasbey & Mattison Company, manufacturers of asbestos products.

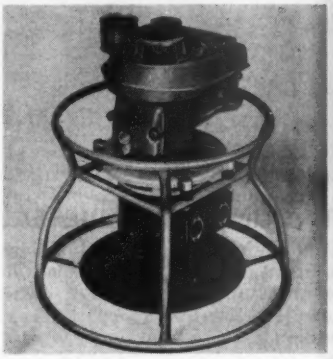
It is claimed that safety garments made of "Kamklad" make it possible for the wearer to withstand temperatures in excess of 2500 degrees Fahrenheit without discomfort or ill effect.

The new product is a tightly woven asbestos cloth surfaced by a special process with a heat protective aluminum foil. Flying sparks and cinders are said to fall right off without damaging the material. It resists water, oils, and, to all practical purposes, has the same corrosion-resistant qualities as the aluminum with which it is covered.

New FWD Brochure

A new four-page brochure, featuring specifications and photos of FWD's new-design, budget-priced "Special" Series pumping engines, is available from Four Wheel Drive Auto Company, Clintonville, Wisconsin.

Vertical Shaft Feature of New Generator



Thor Power Tool Company has entered the portable electric generator field with two 1,500-watt models featuring a new revolutionary vertical shaft design.

Weight loads, normally imposed on the main bearing shaft in conventional horizontal designs, are said to be shifted completely to the framework, which serves also as protective guard and carrying handle.

Compact and easily portable, the new generators weigh 95 pounds. Each has a four-cycle, single cylinder, air-cooled engine with automatic rewind starter. Two plug-in outlets are provided, and any number of tools or lights with a total power requirement up to 1,500 watts may be used simultaneously.

International Introduces Fire Truck with V-8 Engine

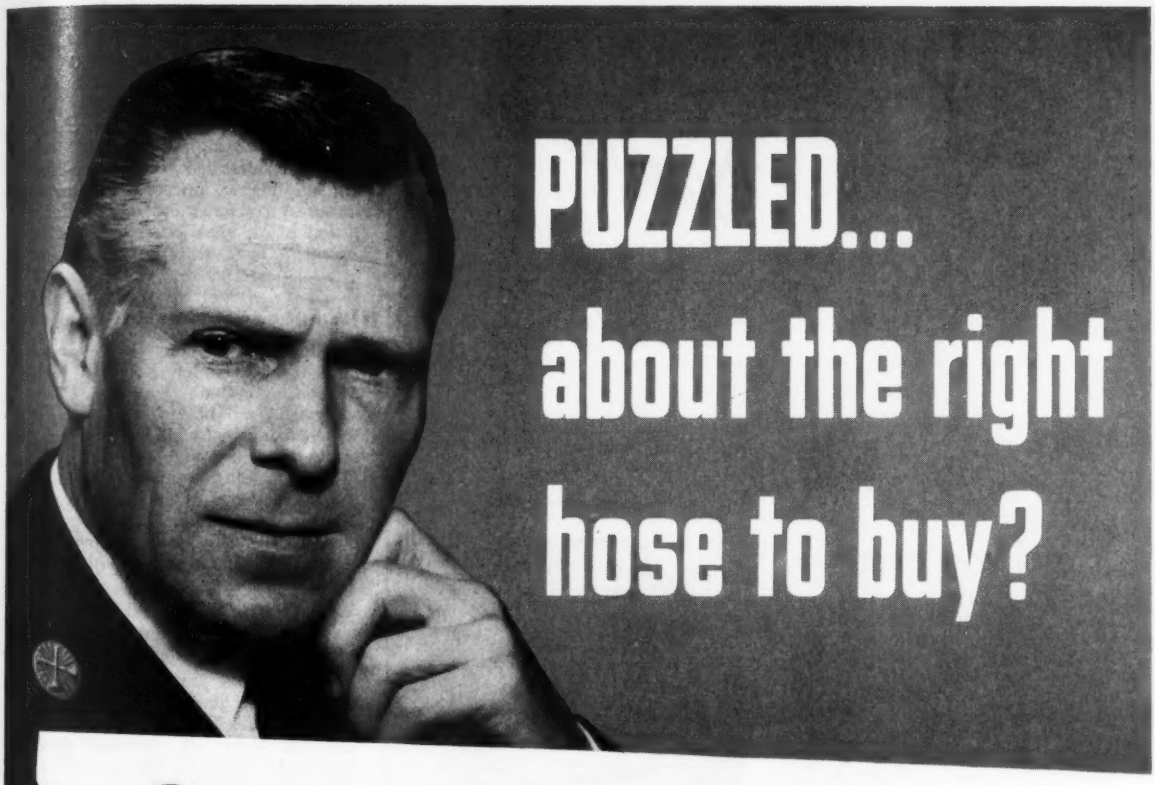
The first International fire truck chassis to be placed in service with new International V-8 engine has been assigned to Engine Company No. 1 of the East St. Louis, Ill., Fire Department. Equipment includes a high and low-pressure 1,000-gallon Class-A pumper, 700-gallon booster tank, 2,000 feet of hose, 600-watt 12-volt generator, 60-gallon left-hand fuel step tank, and full-width foam rubber seat. The new International V-8 engine develops 257 horsepower.

New Alternators

A new line of alternators designed to provide increased battery output so often demanded of police and fire vehicles has been announced by the Leece-Neville Company, 1374 East 51st Street, Cleveland 3, Ohio.

The new models are valuable where accessories cause high battery drain and where low travel speeds or repeated stop-and-go driving cannot provide sufficient recharging of batteries. They include both a light-duty and a heavy-duty unit with capacities of 12 volts, 50 amperes

Continued on page 152



PUZZLED... about the right hose to buy?

Remember: Only **BOSTON** *offers every important feature!*

1. A hose for every fire fighting need from a proven, reliable source.
2. Single responsibility — couplings and fittings custom-made by the same company that manufactures the hose.
3. Made by the originators of circular woven fire hose — with over 75 years of experience.
4. Seamless tube of highest quality rubber for longest service life and least water absorption.
5. DACRON filler for lightness, extra strength, superior flexibility.
6. Longer service under most severe conditions.
7. Every length pressure tested prior to shipment.
8. Maximum protection against mildew, rot and freezing.
9. Compact . . . coils easily and dries quickly.
10. Fast, personalized service from warehouses throughout the United States.

See your BOSTON agent or write to BOSTON for free descriptive literature

BOSTON FIRE HOSE

BOSTON WOVEN HOSE & RUBBER COMPANY
BOSTON 3, MASSACHUSETTS

Also producers of INDUSTRIAL HOSE • BELTING • V-BELTS • MATTING • PACKING • TAPE

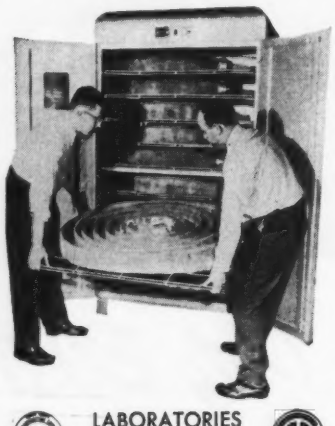
Sun-bathing?

It's a swell way to get a tan — BUT it's a helluva way to dry fire hose. In fact . . . drying hose in the sun is the surest way to curtail its life expectancy. The sun bakes in contamination and, just as the sun dries your skin, it removes the natural oils from the cotton fibers and ages the rubber lining.

Hose should ALWAYS be washed after using, then dried with proper hose conditioning equipment.

FIRE HOSE DRYER →

The patented, electrically operated Circul-Air hose dryer circulates prewarmed fresh air through loosely coiled hose at the rate of 5 to 6 air changes per minute. Saves floor space, hard work and lengthens hose life. No other drying method is so fast — so economical — so easy to use. Circul-Air is the preferred drying method in over 4,000 leading Fire Departments.



ACCEPTED — APPROVED — RECOMMENDED

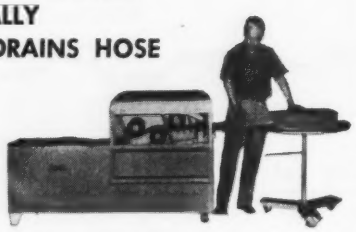
Approved by Underwriters' Laboratories . . . and Canadian Standards Association. Recommended by all leading fire hose manufacturers.

LABORATORIES APPROVED

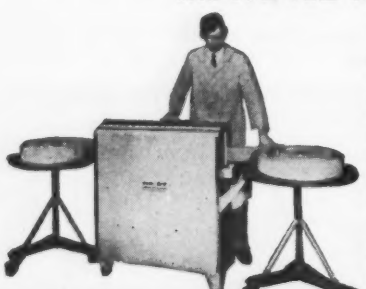
NEW *Roto-Jet* HOSE WASHER AUTOMATICALLY WASHES — RINSES — DRAINS HOSE

ROTO—JET Washes, Rinses, Drains hose thoroughly and quickly. Hose is self-propelled. Simple one man operation. With or without detergents, ashes, dirt, mud and sludge are automatically scrubbed out and flushed away. Saves time. Lengthens hose life.

Now . . . with Foot Pedal Operation.



THE A-Z FIRE HOSE WASHER



ROTO-TABLES SOLD SEPARATELY

This modestly priced washer drains and rinses the hose as it washes. 4 Roto-jets constantly spray hose with clean, fresh water — all sediment is flushed through collecting pan and down the drain. The brisk action of the cleaning brushes moves the hose slowly through the washer. No strain. No fatigue. Turn tables keep the hose OFF the floor. They're excellent for reloading truck (several lengths may be stacked on each) or loading the hose dryer.

WRITE FOR FOLDER

THE CIRCUL-AIR CORPORATION 575 EAST MILWAUKEE DETROIT 2, MICHIGAN

MANUFACTURERS' NEWS

Continued from page 150

and six-volt models with capacities of 60 amperes.

A companion line to the Leece-Neville original higher priced alternator, the manufacturer states the new models are priced below extra heavy-duty DC generators.

Hamilton Appoints Cochran

John Cochran has been appointed branch manager for Hamilton Rubber Mfg. Corporation's Southern Division, supervising an enlarged sales force from the company's sales office and warehouse in Atlanta.

Cochran brings to his new position ten year's experience in the mechanical rubber goods field, including factory, sales office, and outside selling experience in Georgia, North Carolina, South Carolina and Tennessee.

Conelrad Monitor

Motorola has announced a Conelrad monitor receiver which requires both carrier break and 1000 cps tone to activate an alarm. It monitors standard broadcast stations for the conelrad radio alert which consists basically of two 5-second carrier breaks followed by a 1000 cps tone and a voice message.

Five preset crystal-controlled channels include the two conelrad channels on 640 kc and 1240 kc. An additional sixth preset channel is tunable to any frequency from 640 to 1600 kc.

Hamilton Rubber Speeds Deliveries

The Hamilton Rubber Mfg. Corp., Trenton, N. J. has completed new warehousing facilities for its South Atlantic sales territory in Atlanta, Georgia, making possible one-day delivery of the company's rubber products in Georgia, Alabama, Florida, South Carolina, North Carolina and Tennessee. The company manufactures a complete line of hose of all types including fire hose. The Hamilton Atlanta sales office and warehouse is located at 649 Ponders Avenue, N. W.

New All-Yellow Safety Coat

A new safety coat for firemen has just been added to the extensive line of firemen's garments manufactured by Midwestern Safety Manufacturing Company, Mackinaw, Ill. The brilliant yellow material is easily distinguished and visible under adverse lighting and weather conditions.

According to the manufacturer, the "Vanitex" rubber fabric material stays soft and flexible through extreme heat or cold and is compounded to resist the acid of fire fighting chemicals. For material samples and complete information, address the manufacturer.

Emergency Communication Power

The latest release of "Power Points Digest," house organ of D. W. Onan & Sons Inc., Minneapolis 14, Minn., is devoted to the application of electric plants as a source of emergency electric power for communications.

How various telephone companies, fire departments and radio stations rely on emergency electric power in the event of highline power interruption is described and illustrated in this two-color, 12-page pocket booklet. Ask for Volume 12, No. 1.

Select-O-Matic Transmission

International Harvester Company has introduced a new Select-O-Matic transmission for heavy-duty International trucks including fire apparatus.

It features an electro-hydraulic clutch and high-efficiency torque converter in combination with a five-speed synchro-mesh transmission. The clutch pedal and dry disc clutch is eliminated in the new transmission. The hydraulic clutch is engaged and disengaged by a button on the shift knob.

Electric Plants

Graybar Electric Company, 420 Lexington Ave., New York 17, N. Y., has made available to its customers a line of gasoline, LP gas and diesel engine-driven power plants. Produced for Graybar by the Winpower Mfg. Co. of Newton, Iowa, the sets are available from 400 watts to 100 KW.

New G-E Radio Bulletin

General Electric's Communication Equipment Section, Electronics Park, Syracuse, N. Y., has published Bulletin ECR-380-A on G-E's new Progress Line 450 mc two-way radio. The bulletin gives details on printed circuitry, interchangeable components, cabinets and mountings.

1956 Fire Losses Up 11.8 Per Cent

Fire damaged or destroyed an estimated $989,290,000 worth of property in the United States last year, the National Board of Fire Underwriters has reported. This is 11.8 per cent more than that for 1955, when estimated monthly losses totaled $885,218,000.

According to Lewis A. Vincent, NBFU's general manager, estimated losses for December 1956 totaled $96,485,000, an increase of 19.9 per cent over losses of $80,481,000 reported for November 1956 and an increase also of 8.2 per cent over losses of $89,212,000 reported for December 1955.

These estimated insured losses include an allowance for uninsured and unreported losses.

BUFFALO
dry chemical
EXTINGUISHERS
give you
finger-tip control
for FAST, FLAME-
SMOTHERING ACTION!
Buffalo Dry Chemical Extinguishers with instant, finger-tip control assure faster action against all flammable liquid and electrical fires! You get extra protection too, because a specially designed diffuser spreads a flat, dense blanket of flame-smothering chemical powder in a 60° arc that produces 1100 times its volume on contact with the flames . . . enveloping and extinguishing the flames in seconds! This heat-shielding blanket allows the operator to get closer to the flames for more effective extinguishing.
Lightweight, Stainless Steel Buffalo Dry Chemical Extinguishers are available in 10, 20 and 30 lb. cartridge operated models, and 5 lb. stored pressure model. They are Underwriters' Laboratories and Factory Mutual approved.
BUFFALO FIRE APPLIANCE
CORPORATION
DAYTON 1, OHIO
ESTABLISHED 1895
ORDER BUFFALO
FIRE PROTECTION FROM YOUR
INDUSTRIAL DISTRIBUTOR TODAY!
he's listed in the yellow pages

BUFFALO
better-built
the right extinguisher for every fire hazard . . . plus a complete line of brass goods and hose

FALSE ALARMS

Past Tense

"I'm Chief Smith's wife," said the redhead, introducing herself to a striking blonde at the fireman's brawl.

"I'm his secretary," said the blonde.

"Oh," said the redhead, with raised eyebrows—"Were You!"

Over at the fire college the guest lecturer was giving the probies their indoctrination into the chemistry of fire.

After sounding off for half an hour he asked the class what they considered the most important contribution chemistry had made to the world.

The first proby he picked upon to answer came right up with the answer: "Blondes."

Gals who know their onions marry men with lots of lettuce and end up with plenty of carats.

She turned down his proposal.

"There isn't anyone else, is there?" he anxioused.

"Oh, John," she sighed, "there must be."

"Is your husband a bookworm?"
"Ah-h, no. Just an ordinary one."

Hot Golf Course

Golfer (to player ahead): "Do you mind if I play through?"

Second golfer: "Why what's the rush, is there an emergency?"

First golfer: "Plenty! My pants are on fire!"

Old man Finickey complained to the waitress that his soup was too soupy, his eggs too eggy, and so on. Finally he said: "I wonder if they know how to cook a chop. I want it lean, d'you understand?"

"Yessir," said the waitress, "Which way?"

"I hear there's a new baby in your family, Willie."

"Yeah—he was born yesterday," vouchsafed precocious William.

"Isn't that lovely!" exclaimed Mrs. Naybor. "Did the stork bring him when you were asleep?"

"Are you kidding?" snorted the child prodigy. "He developed from a unicellular amoeba."

Verse—and Worse

The proby was an unsafe worker,
Little more need be said;
His officers called him reckless—
The coroner called him dead

"As a time saver, I think we've got something!"

"Boo!"

Chief Cinder went abroad on his vacation. The first place on his itinerary was Paris. Once there, he headed for the Moulin Rouge and the first bistro he could see. The waiter came up, bowed politely and said "What's your pleasure, sir?"

"Girls," came back Chief Cinder, "What's yours?"

Kinkchaser's definition of an accident goes like this: "An accident is something that, five minutes after it happens, anyone can see how it could have been avoided."

The English language teacher wanted to stress the importance of brevity in writing, so she offered a prize to the student writing the shortest possible essay on two of life's problems.

The winner wrote: "TWINS."

Set 'em Up Sarge!

A policeman brought in a negro woman. The desk sergeant scowled and roared at her:

"Mandy, you've been brought in for intoxication!"

"Mister man, that's fine," beamed Mandy, "You can start right now!"

A patient walked up to the new superintendent of the mental hospital.

"We like you much better than the last superintendent," he said.

"Why is that," beamed the new boss.

"Oh sir, you seem so much more like one of us," was the reply.

Figuratively Speaking

She: "Why did you quit teaching school to join the chorus?"

Her gal friend: "Because I figured there's more money in showing figures to older boys."

The successful man is one who makes more money than his wife can spend.

The successful woman is the one who marries him!

MIDWESTERN

Safety Clothing for FIREMEN

The Original
STRIPED SAFETY COAT

- ☆ ***New Yellow Rubber Stripes!***
- ☆ ***Maximum Visibility!***
- ☆ ***Maximum Durability!***
- ☆ ***Exclusive Safety Features!***

YOU deserve the BEST PROTECTION OBTAINABLE for your hazardous work of protecting life, and property against fire. The Mackinaw Safety Coat with new yellow stripes is the answer! Highly visible stripes are rubberized as part of the material . . . not painted, glued or sewed on. Tests indicate that the new yellow, like black, retains its natural color and has the same durability.

There are many imitations but no substitute for the superior quality, design, fabric texture and safety features you get by specifying MIDWESTERN!

MIDWESTERN
COMBINATION SAFETY SUIT

The Midwestern Rubberized Coat and Bunker Pants make it easy for firemen to keep both warm and dry even in the most severe weather. Close fitting collar and elastic inner sleeve keep out sparks and water. Detachable wool lining. Pants have double-stitched seams, reinforcing rivets at points of strain, large roomy pocket space.

For complete information on our full line of safety clothing for firemen, see your Midwestern dealer. A letter to the factory will also bring you literature and materials for your inspection.

NONE GENUINE WITHOUT THIS TRADE MARK

MIDWESTERN SAFETY MFG. CO. Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Safety Coats**

Among the Buffs

By Paul C. Ditzel

IF YOU'RE EXPECTING a buff's eyewitness account of the Malibu brush fire disaster in the Los Angeles area recently you'll have to look elsewhere. I suspect the collective wigs of Charles Farnham, Jack Corcoran, Jack Robrecht and Doc Levin will flip simultaneously when I humbly explain that I was involved as a member of a wedding party while things were a-poppin' up in Malibu.

Between sips of champagne and nibbles at canapes I did learn that the fire had jumped the Pacific Coast Highway "like she was a cowpath" in the words of Assistant Chief John Duncan of the Los Angeles County Fire Department.

The holidays brought a number of greetings from buffs and clubs throughout the country. As is the habit of this column, we acknowledge them soon after via FIRE ENGINEERING. Unfortunately, the warden tossed most of them into the fireplace after the holidays. So those of you who aren't mentioned below can take heart in knowing your card graced our hearth with its warmth.

Greetings salvaged included those from Jack Corcoran, Captain Benjamin F. Renfro and fellow compatriots of the Los Angeles Fire Department's Photo and Publicity Section; Anita and Vince O'Meara; "Smokestack" Hardy; Bob Fuller; Jack, Betty, Johnny and Charlie Robrecht; Warren Zapp; Roi Woolley; George Benson and Geoffrey F. D. Pratt.

Which reminds me that Friend Geoffrey Pratt has been succeeded at our English counterpart, Fire Protection, by J. L. Eades.

The always-interesting "General Alarm" of Baltimore's Box 414 Association reports an interview with BFD Battalion Chief No. 16, George E. Moeller, whose birthday is the same as mine. Chief Moeller described his first multiple alarm which I doubt can be beaten by anybody, anywhere:

Chief Moeller responded to 2 second alarms and a box alarm simultaneously, believe it or not. "The reason for this," explains Editor Ray Wheatley, "was because the fire was spread out and involved 100 freight cars on the Baltimore and Ohio Railroad between Morrell Park and Lansdowne."

Just shows you can't tell what tidbits you'll pick up from the fire fans' correspondence!

The second issue of "Turn Out," official newsletter of the International Fire Buffs, Inc., also edited by Brer Wheatley was received during the Yuletide. Three new clubs have joined the swelling ranks of the organization: the Box 52 Association, Inc., of Boston, Mass.; Central Alarmers, Inc., Towson, Maryland; and the Gong Club, Inc., of Jersey City, New Jersey. Tentative dates for the IFBA's next convention are: June 27 to 29th in Cincinnati, reports Bob Wren, secretary of that city's Box 13 Club.

For those of you who don't already know this and to save others the time, the IFBA does not take in individual members. The organization eventually hopes to include all clubs in the United States and Canada.

"The reason for forming IFBA," says Editor Wheatley, "was to help each other to be helpful to our fire departments. Complete organization and closer contact with each other will help every club to achieve this goal. You can take the first step at your next meeting, have a motion brought up at our request to join IFBA. Then contact the Secretary, Mr. Edward Damaschke, 915 W. Marshall Ave., Ferndale 20, Michigan, for the necessary papers to join the fastest growing international organization in this free land."

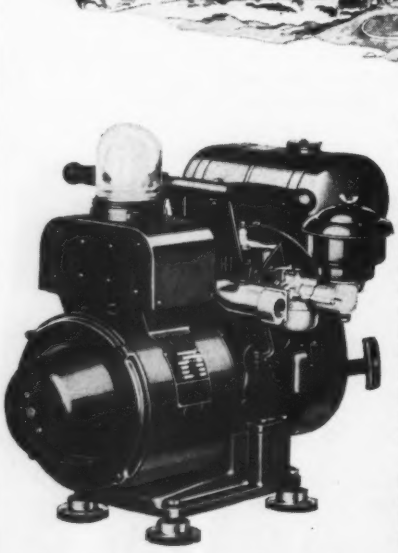
The board of directors of the IFBA is scheduled to meet in Baltimore, February 23rd. Among the topics to be discussed are problems of mutual aid among buff clubs. The IFBA has called for a poll of members on the question of mutual aid and we hope that Secretary Ed R. Damaschke will keep up posted on the results of this and other points of interest to buffs as a whole.

From the mails:

James C. Beaudry, EN3, USS "Sunbird" (ASR-15), U. S. Submarine Base, New London, Conn., would like to hear from readers who model modern fire apparatus. He also wonders whether any manufacturers of kits put out a prototype

KOHLER ELECTRIC PLANTS

On-the-spot power for floodlights, tools, rescue trucks, civil defense



Model 1.5M25, *1500 watts, 115 volt AC. Manual starting. 2500 watt AC portable models also available.*

Volunteer and municipal fire departments use compact, smooth-running, portable Kohler electric plants to speed fire-fighting and rescue work. Kohler 1500 watt model provides ample power for floodlighting night fires—also pumpers, smoke eradicators, resuscitators, power tools for rescue operations. Has 4 receptacles, pilot light, double carrying handle. Rubber-tired hand cart available. Other models, 500 watts to 50 KW include stand-by models to maintain sirens, alarm signals, communications during power failure.

For civil defense portable Kohler plants operate floodlights, sound amplifiers, power tools, X-ray units for mobile hospitals, and rescue truck equipment. Larger sizes for air-raid sirens. Stand-by models for panic or evacuation centers. Write for folder 20-B.

Kohler Co., Kohler, Wisconsin • Established 1873

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION CONTROLS

of such apparatus. Jim would also like to hear from any buffs who have plans for apparatus that they would be willing to sell. This sounds like a letter for Friend Tom Showers of the Los Angeles County Fire Department to answer. Its all yours, Tom.

My good friend of Chicago fire-fanning days, Harry Wolff, wishes us a "Happy Holidaze" and sends along proceedings of the 1956 session of the Fire Department Instructors Conferences. Thanks, Harry.

That's about it for this month. Be sure to keep the comments and anecdotes flowing to the new address: 4234 Don Diablo Drive, Los Angeles 8, Calif. □□

Looked Worse Than It Was

Fire feeding on an accumulation of oil sludge in a partly dismantled fuel storage tank at the West plant of the Bridgeport Gas Company, Bridgeport, Connecticut, on December 21, gave fire fighters and residents of the West End section of the city a bad scare until it was discovered that only the fuel oil sludge at the bottom of the tank was burning and there was no danger of an explosion.

Sparks from a workman's torch used to cut up steel sections of the tank wall ignited an accumulation of Bunker C oil at the bottom of the holder. The spectacular blaze sent flames and thick black smoke 30 feet into the air above the tank as fire fighters fought the fire more than an hour.

Heat from the burning oil melted the steel sides of the container causing them to bend and crumble. The tank previously had been used to store 100,000 gallons of oil used in the manufacture of illuminating gas. The tank and other equipment at the site were being torn down as the firm no longer manufactures large quantities of gas since the advent of natural gas service to that city.

Tom Magner

A spectacular fire in a partly dismantled fuel storage tank at the West Works of the Bridgeport Gas Company in Bridgeport, Conn., sent flames and smoke 30 feet into the air. Fire officials said the fire started when sparks from a workman's torch being used to cut away steel sections of the tank ignited an accumulation of oil sludge

WEAR A SCOTT AIR-PAK
AND BE SURE

Yes, you must protect your own life in order to successfully save another . . . and the surest way of doing that is to don a Scott Air-Pak before you enter a smoke filled area. Then you will breathe pure, fresh, cool air no matter how thick or poisonous the smoke.

The New SCOTTORAMIC Mask gives unlimited vision in all directions, making a rescue job with a Scott Air-Pak safer and surer.

Is your fire company Scott equipped for modern rescue work? Let us show you how little it costs. You'll be amazed at the annual savings over other types of breathing equipment. Write us today or contact your nearest Scott Distributor.

Celebrating a Quarter of a Century of Progress

VOLUNTEER FIREMEN
Free decals for your car.
Write for yours today.

SINCE 1932 Scott FOR SAFETY - FOR SERVICE

Safety Equipment Division
SCOTT AVIATION CORP.
215 ERIE STREET LANCASTER, N. Y.
Canada: Safety Supply Co., Toronto — Branches in Principal Cities
Export: Southern Oxygen Co., 15 West 57th Street, New York 19, N. Y.

World-Wide Fire News

Fire Eater Must Get Her Gas To Eat

As everyone knows, the blocking of the Suez Canal has posed a gasoline problem in many nations. Perhaps worst affected is Britain where rationing has resulted.

When that rationing began in December last, one of those affected was Priscilla Birt, 19 otherwise known as Zahrat the Fire Eater. Miss Birt had to convert from gasoline to turpentine. But it didn't work out so well. The cost of 'arf a cup of fuel used per performance was about the same and although nobody had any real complaints about the flame, it seems the taste left in Miss Birt's throat was terrible. Nor was there any way of 'perfuming' the fuel.

Result: Miss Birt applied for a ration of gas. And because there was no category of 'fire eaters' in the R & R she classified herself as a "taxi or hearse."

The whole thing got the chappies down at the Ministry of Fuel in a real dither; really, it was a bit of dilemma, what! But the Ministry finally came up with its decision. It declared Zahrat the Fire Eater is a "stationary engine" and therefore Miss Birt is entitled to one gallon of gas a month. It sent her four previous coupons.

Would you call that a light diet for a fire eater? Zounds!

"I go for a DRAGON® FIRE PUMP every time!"

Give a fireman a choice and he's sure to go for the Dragon Fire Pump —the one designed from *his* point of view.

Dragon Fire Pumps come *completely assembled*. And because there's no pump packing to dry out, they're always ready for instant action, even after standing idle for long periods. The special harness is not only easy to get into, but designed so the pump rides high where it can't throw the fireman off balance or interfere with walking.

Dragon Fire Pumps fight fire *and* fatigue! Just a few easy strokes of the pump lever gives the operator a *continuous* flow of water he can direct right where it does the most good. And a mere twist of the shut-off nozzle gives either solid stream or spray *instantly*. What's more, a fireman using a Dragon Fire Pump can take his hands off both shut-off nozzle and pump lever to use rake, shovel, or other tool.

Specify Dragon Fire Pumps and get the pump designed with the *firefighter* in mind.

VALUABLE DISTRIBUTORSHIPS AVAILABLE, WRITE TODAY.

Dragon FIRE PUMPS

now available in 2 models

No. 150-S—Stainless Steel Tank

No. 150-G — Galvanized Tank: Cold-rolled steel, hot-dipped galvanized after fabrication.

All units equipped with brass pumps; all tanks seam welded. Capacity 5 gallons

DRAGON FIRE PUMPS meet Underwriters' Laboratories requirements and can be supplied with the UL label of inspection attached.

PARCO PRODUCTS COMPANY

PENNSBURG, PENNSYLVANIA

Sour Note!

A tidal wave of vinegar got housewives of Tower Road, Birmingham, England, into a pretty pickle the night of December 28 last, not to speak of sounding a sour note for the local firemen.

For some reason, a 20-foot-high vat at a factory burst, sending 45,000 gallons of the stuff down the road.

Housewives tried to barricade their houses with carpets piled at the doors but, said one of them, soon vinegar began bubbling up through the drains and squirted all over the place.

Firemen were called and they finally diverted the river of salad dressing and set to work pumping out cellars.

From the World-Wide News Ticker

In Nagasaka, Japan, 15 firemen were arrested on charges of shooting up the police station with high pressure fire hoses after a riotous New Year's party. A police spokesman said the firemen apparently were irked because the police chief snubbed their invitation to the party. . . . Two small townships on the New South Wales, Queensland, border of Australia, were saved January 5th, by 500 fire fighters, from a brush fire advancing over a 58-mile front. The fire in the two states had consumed more than 500,000 acres on that date and was still going strong. . . . Noting that the Navy is prepared to "readily equip" all its warships with a wash-down system to counteract radioactive fall-out, a bright mind in the fire service asks why couldn't fire apparatus be so rigged? Next question please. . . . In Hiroshima, Japan, one fireman was killed and four were injured, two seriously, in the fall of a ladder during a traditional fireman's show on January 4, 1957. . . . Thirty-Three persons were burned to death on December 27 last, when a bus burst into flames near Pusan, South Korea. Twenty-seven others were severely injured. Police said the overcrowded bus, carrying 60 passengers, was enveloped in flames seconds after a can of gasoline exploded. Lighted cigarette reportedly set off blast. . . . In Naples, Italy, a ton of Christmas fireworks exploded December 23 killing five children and an aged grandmother. Three other persons were seriously injured. . . . Fire broke out aboard the 7,607-Ton U. S. freighter, "Leslie Lykes" on December 20 following a collision with a Norwegian ship at the mouth of the Weser River. German fireboats were dispatched to fight the fire in the Lyke's load of cotton. . . . At Saarbruecken, Germany, seven families were driven from their homes on December 10, when a Royal Canadian Air Force jet fighter plunged into apartment houses, exploded and set them afire. None of the 32 inhabitants of the houses were hurt and the jet pilot parachuted to safety. . . . A fireworks factory in Fuchu, Japan, blew up December 29, destroying two powder magazines and 16 houses. Casualties not determined. . . . In Flin Flon, Manitoba, according to press reports, Maurice Barre, a fireman, went to bed with a cigarette and—just like firemen warn against, awoke with the bed-

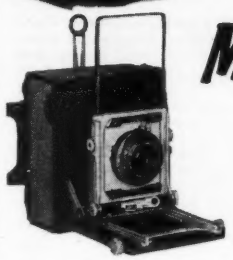
ding and mattress on fire. Bet he hadda do a bit of explaining to Chief Redman. . . . Fire broke out on the Argentine cruiser "25th of May" at its berth in Buenos Aires on December 26th. . . . On January 1, the Swedish ship, "Visten," 1114-tons, was reported afire in the North Sea. . . . Speaking of ship fires, the 168-foot banana Boat, "Montego" caught fire just outside Tampa, Florida, harbor January 2 and burned fiercely for about three hours before the blaze was extinguished. The Coast Guard fire fighters reportedly did their stuff. . . . The earth for miles around shook and rumbled as the Southern Pacific Railroad set off the nation's second largest non-atomic blast, January 4. Engineers placed 900,000 pounds of explosives about a mile north of Little Valley, Utah, on the shore of Great Salt Lake. The blast was to provide nearly 1 million tons of loose earth for an embankment being built across the lake. The biggest non-atomic explosion was set off in 1948 at Bristol, Tennessee, by the TVA when over 1,360,000 pounds of explosives went boom! . . . Dr. Edward Teller, an atomic scientist, who has been called "the father of the hydrogen bomb" believes the U. S. should build a series of deep shelters to protect civilian populations against the devastation of nuclear warefare. . . . On December 21 last, Capital Airlines Flight 77, loaded to maximum with 44 passengers and four crew members, slid to safety on a blanket of foam laid down by crash crews at the Charlotte, N. C., airfield. Defective landing gear on the four-engined turbo-jet craft couldn't be fixed aloft so after circling Charlotte Field for two hours, the pilot slid the plane in on the fire foam blanket spread over half the runway.

NBFU Fire Prevention Code

The National Board of Fire Underwriters has announced publication of its newly-revised model Fire Prevention Code. The latest edition of the code has been revised in many sections to bring it up to date and make it consistent with all the latest nationally recognized safety standards. A new section on potentially explosive chemicals has been added. Interested persons may obtain free copies by writing to the National Board at 85 John St., New York 38, N. Y.; 222 West Adams Street, Chicago 6, Ill.; or 465 California Street, San Francisco 4, Calif.

Delay News Reports As Safety Measure

The American Municipal Association has called attention to a recommendation by Fire Chief Edward F. Deignan of Elizabeth, N. J., that officials should delay at least 15 minutes before telling television and radio reporters about major fires or other disasters. The chief said that broadcasters often break the news too soon, causing excitement-seekers to hurry to the scene. The resulting traffic congestion may prevent fire apparatus from reaching the scene or leaving on other calls.



Maximum Photo Coverage At Minimum Cost!

CENTURY GRAPHIC®

Departments throughout the country are finding the Century Graphic the perfect answer to low-cost, full-time photographic coverage. Its applications in fire department work are many. Pictures prove invaluable for on-the-spot records, training, demonstration of equipment, fire prevention, suspected arson investigation, fire college graduations, and inter-department sports.

The Century Graphic's wide-range versatility, combined with its low cost, make even the smallest budget stretch farther. No other 2¼ x 3¼ camera offers so many features. Yet it is no bigger than your hand. There are many features that make this camera particularly adapted for fire department use. Its 2¼ x 3¼ negative size permits economical enlargements without loss of detail. Two viewfinders, a press-type frame finder and an optical viewfinder, make picture-taking fast and accurate. The ability to use normal, wide angle or telephoto lenses interchangeably enables the user to meet any photographic situation. Shutter speeds to 1/800 second and built-in flash synchronization stop action day or night. The Graflok Back, furnished as standard equipment, provides critical ground glass focusing and accepts a variety of film accessories for using roll, sheet or pack film. And it takes only a short time to train a fireman to use it skillfully.

Economical, full-time photo coverage with the Century Graphic is a sure way to improve the over-all efficiency of your department. Consult the "yellow pages" of your phone directory for the Graflex dealer in your community.

GRAFLEX® *Prize-Winning Cameras*

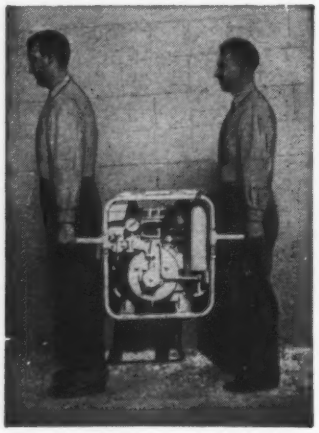
A SUBSIDIARY OF GPI

For further information, write Dept. FE-27, Graflex, Inc., Rochester 8, N.Y.

HALE Type FZZ

Portable Fire Pumping Unit with NEW—

- **Ball-Type Valve**
- **Improved Priming**



Above—Frame-mounted FZZ can be easily carried by two men. It is also available mounted on rubber cushioned steel channels or on two truck-type wheels.

Fire Companies frequently write us telling of the many practical ways they use their portable Hale type FZZ, such as the following:

- **For fighting field or forest fires from moving trucks.**
- **For "wetting down" and standby use, thus releasing major equipment.**
- **For pumping out flooded cellars and elevator shafts after fire, flood or other emergency.**
- **For relaying water to pump or booster tank from sources inaccessible to major Fire Pumpers.**
- **For factory protection in fighting fires before major equipment arrives.**
- **For fighting oil or other type fires requiring foam. (Built-in foam proportioner available when specified.)**

The FZZ will supply from draft, 2 capable fire streams thru 1½" lines. Its performance substantially exceeds the NBFU and NFPA capacity and pressure requirements for portable pumping units.

Note: Discharge Adapter can be supplied for use with 2½" fire hose.

Write for New FZZ folder today.
Ask for Demonstration.
No Obligation.

HALE FIRE PUMP COMPANY

CONSHOHOCKEN - - - - PENNA.

Fire Pumps in All Standard Capacities

Schools and Conferences

Feb. 19-22—Fire Department Instructors Conference. Annual meeting, Memphis, Tenn. For information, contact Harry H. Wolff, Conference Secretary, P. O. Box 1089, Chicago.

Mar. 4-8—Florida State Fire College. Units 101—Tools, Forcible Entry, Breathing Apparatus; 107—Arson Detection; 202—Company Officer Training, to be held at Florida State Fire College, Ocala, Fla. For information, contact W. H. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

Mar. 11-15—Florida State Fire College. Units 102—Hose and Ladders; 106—Fire Inspection; 204—Fire Fighting Tactics, to be held at Florida State Fire College, Ocala, Fla. For information, contact W. H. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

Mar. 12-13—Philadelphia Fire and Safety Conference, to be held at the Bellevue-Stratford Hotel, Philadelphia, Pa. For information, contact Lewis M. Atkinson, Recording Secretary, Keystone State Fire Chiefs Association, Malvern, Pa.

Mar. 18-22—Florida State Fire College. Units 103—Rescue, Ventilation, Salvage and Overhaul; 105—Fire Apparatus and Pumps; 206—Fire Prevention and Protection, to be held at Florida State Fire College, Ocala, Fla. For information, contact W. H. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

Mar. 25-29—Florida State Fire College. Units 104 — Fire Streams and 201 — Instructor Training, to be held at Florida State Fire College, Ocala, Fla. For information, contact W. H. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

Mar. 25-29—Indiana Fire School. Basic Fire Training Course, Purdue University, Lafayette, Ind. For information, contact Professor Shelby Gallien, Director, Public Safety Institute, Division of Adult Education, Purdue University, Lafayette, Ind.

Mar. 28-30—Connecticut Fire Officers Training Conference. Annual meeting, Storrs, Conn. For information, write Ray Adams, Capitol Building, Hartford, Conn.

Apr. 2-5—Maryland Short Course for Fire Inspectors. Annual meeting, University of Maryland, College Park, Md. For information, contact Robert C. Byrus, Director, Fire Service Extension Department, P. O. Box 295, College Park, Md.

Apr. 15-19—Florida State Fire College. Unit 208, Fire Department Administration, to be held at Florida State Fire College, Ocala, Fla. For information, contact W. H. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

Apr. 29-May 3—International Seminar on Arson Detection and Investigation. Annual meeting, Purdue University, Lafayette, Ind. For information, contact Professor Shelby Gallien, Director, Public Safety Institute, Division of Adult Education, Purdue University, Lafayette, Ind.

May 6-7—Georgia State Fire College. Silver Anniversary meeting, Atlanta, Ga. For information, contact Harry Phillips, Director, 46 Courtland Street, S. E., Atlanta 3, Ga.

May 21-23—Liquefied Petroleum Gas Conference, to be held at Florida State Fire College, Ocala, Fla. For information, contact W. H. Barnett, Superintendent, Florida State Fire College, P. O. Box 785, Ocala, Fla.

June 3-5—Eastern Association of Fire Chiefs. Annual meeting, Baltimore, Md. Secretary, Chief Edwin J. Clark, Box 328, Wayne, Pa.

June 6-8—Montana State Fire Chiefs Association, Annual meeting, Lewistown, Mont. Secretary-Treasurer, William S. Hayes, 312-1st Avenue North, Great Falls, Mont.

June 11-12—Indiana Fire Department Instructors' Conference. Annual meeting, Indianapolis Drill School, Indianapolis, Ind. For information, contact Professor Shelby Gallien, Director, Public Safety Institute, Division of Adult Education, Purdue University, Lafayette, Ind.

June 19-21—Colorado State Firemen's Association. Fortieth Anniversary, Convention, Tournament and Fire School, Loveland, Colo. Secretary, Arthur J. Becker, 2224 South Stuart Street, Denver 19, Colo.

June 19-22—Arizona State Firemen's Association. Annual meeting, Prescott, Ariz. For information, contact Chief Jack Custer, Fire Headquarters, Prescott, Ariz.

June 23-26—New England Association of Fire Chiefs. Annual meeting, Wentworth-by-the-Sea, Portsmouth, N. H. Secretary-Treasurer, John W. O'Hearn, 206 Mt. Auburn Street, Watertown 72, Mass.

June 17-21—Fire Pump Maintenance Course, to be held at Florida State Fire College, Ocala, Fla. For information, contact W. H. Barnett, Superintendent, Florida State Fire College, P. O. Box 785, Ocala, Fla.

Aug. 5-9—Arson Investigation and Detection Seminar, to be held at Florida State Fire College, Ocala, Fla. For information, contact W. H. Barnett, Superintendent, Florida State Fire College, P. O. Box 785, Ocala, Fla.

Sept. 8-12—International Association of Fire Chiefs. Annual meeting, New Orleans, La. Secretary-Manager, B. Richter Townsend, Hotel Martinique, Broadway at 32nd Street, New York 1, N. Y.

Sept. 9-13—Virginia State Fire School. Annual meeting, No. 9 Station, Thole Street, Norfolk, Va. For information, contact R. Lawrence Oliver, Supervisor-Instructor, Fire Service Training, P. O. Box 654, Harrisonburg, Va.

Sept. 9-13—Florida State Fire College. Units 101, Tools, Forcible Entry, Breathing Apparatus; 107, Arson Detection; 208, Fire Department Administration. For information, contact W. H. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

Sept. 10-13—Indiana State Fire School. Annual meeting, Purdue University, Lafayette, Ind. For information, contact Professor Shelby Gallien, Director, Public Safety Institute, Purdue University, Lafayette, Ind.

Sept. 16-20—Florida State Fire College. Units 102, Hose and Ladders; 106, Fire Inspection; 204, Fire Fighting Tactics, to be held at Florida State Fire College, Ocala, Fla. For information, contact W. H. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

Sept. 22-26—California State Firemen's Association, Inc. Annual meeting, San Mateo, Cal. For information, contact E. L. Albrecht, Sr., Secretary-Treasurer, 755 - 17th Street, San Bernardino, Cal.

Sept. 23-27—Florida State Fire College. Units 103, Rescue, Ventilation, Salvage and Overhaul; 105, Fire Apparatus and Pumps; 206, Fire Prevention and Protection, to be held at Florida State Fire College, Ocala, Fla. For information, contact W. H. Barnett, P. O. Box 785, Ocala, Fla.

Sept. 30-Oct. 4—Florida State Fire College. Units 104, Fire Streams; 201, Instructor Training; 202, Company Officer Training, to be held at Florida State Fire College, Ocala, Fla. For information, contact W. H. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

Oct. 17-19—Arizona State Fire Training School. Annual meeting, Phoenix, Ariz. Director, Jake Siken, Firefighting Instruction Supervisor, Phoenix Fire Department, 49 South First Street, Phoenix, Ariz.

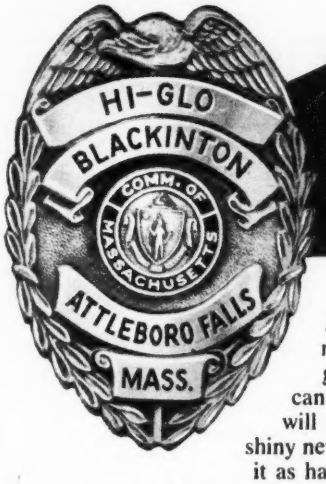
What's Burning?

THE FOLLOWING LIST includes fires of $10,000 and over in the United States and Canada for the period from December 22nd to January 22nd.

Huntsville, Ala.—Manning Wallpaper Co.; Empire Clothing Store; Sandlin Wallpaper Co.; Rutledge Contracting Co.; Independent Life Insurance Co., destroyed. Post Office Cafe and Rhett Woody Furniture Store damaged.
Benton, Ark.—Gringles Wholesale Grocery Co. destroyed.
Dumas, Ark.—Georgia Pacific Corp., sawmill plant, damaged.
Earle, Ark.—Wallin-Dickey & Rich Co. shed, offices and showroom destroyed. Grass fire.
Jonesboro, Ark.—Childs Five & Ten Cent Store, adjoining office equipment store and barber shop destroyed; six other businesses damaged.
Morrilton, Ark.—Sacred Heart High School destroyed.
Newport, Ark.—Shirley Hotel destroyed.
North Little Rock, Ark.—Western Auto Store, Gordon's Jewelers, Curtis Finch, Inc., appliance store; James Brothers office supplies store and Citizens Furniture Co., damaged.
Texarkana, Ark.—Franklin Store and Wommack's Men's Store, damaged. Heating system.
Atascadero, Calif.—Warehouse of Poultrymen's Cooperative Association destroyed. Arson.
Inglewood, Calif.—Lubrication Co. of America damaged.
Long Beach, Calif.—One building destroyed and two damaged at Officers' Quarters, Terminal Island Naval Base.
Los Angeles, Calif.—Ven Co., Plaster Master Co., Santa Anita Manufacturing Co. and Electrical Appliance Service Corp., destroyed.
Malibu, Calif.—Thirty homes destroyed. Brush fire.
Marysville, Calif.—Hampton Building, supermarket, meat company factory, Masonic Building and adjoining stores, damaged.
Modesto, Calif.—John Ball, men's clothier; Dorothy's Sport Shop; Brown House; Higgins Corset Shop; Weeks Sport Shop; Maureen Coffee Shop and Hart Floral Shop, damaged.
Sacramento, Calif.—Diamond Match Co. office building, two lumber warehouses and four trucks, destroyed. Arson.
San Francisco, Calif.—Land Brothers camping and sporting goods store damaged.
San Francisco, Calif.—Siri's Supermarket and adjoining Nox Quality Cleaners plant, damaged.
San Francisco, Calif.—Hansford Building, housing 15 stores and offices, damaged.
San Francisco, Calif.—Apartment building damaged. Gas leak explosion.
San Francisco, Calif.—Alice of California apparel firm damaged.
Bristol, Conn.—Dwelling of Herbert Schatzki destroyed.
Hartford, Conn.—St. Patrick's Roman Catholic Church destroyed.
Hartford, Conn.—St. Joseph's Cathedral destroyed.
Portland, Conn.—Portland Boat Works and six yachts, damaged.
Miami, Fla.—Louis Nuta's yacht basin, including six boats, damaged.
Plant City, Fla.—Russell Rabin citrus packing plant, and four refrigerator rail cars, destroyed.
St. Petersburg, Fla.—Dwelling of State Representative, F. Charles Usina, damaged.
Sarasota, Fla.—West Coast Lumber Co. mill and shop destroyed.
West Pensacola, Fla.—Sky Chief Theatre, snack bar, variety shop, drug store and doctor's office, destroyed. Children with matches.
Augusta, Ga.—John S. Davidson Elem. School damaged.
Gainesville, Ga.—J. M. Hardy Engraving Studio damaged.
Newman, Ga.—Aluminum products plant damaged. Explosion.
Savannah, Ga.—Georgia-Pacific Plywood Corp. fare house at Travis Field Municipal Airport destroyed.
Idaho Falls, Idaho—Idaho Falls Country Club destroyed.

Yours to perfect...

Twist a handkerchief in a rope-wise fashion. Tie the center in a knot, and give the handkerchief to someone to hold. You then make a coin disappear by tucking in back of collar, and when the handkerchief is untied the coin is right there in the knot. THE SECRET? — The coin is a duplicate which you hold in the fingers of your right hand. When you twist the handkerchief rope-wise, it forms a sort of tube, sagging in the middle. You release the coin and let it slide down inside this tube so it comes to the center of the handkerchief where the knot is tied.



Perfection is yours...

The perfection of a BLACKINTON *HI-GLO* badge is yours for a lifetime. *HI-GLO* is that new (almost magic) metal developed by BLACKINTON to give you fine quality badges that you can POLISH — POLISH — POLISH. It will never lose its golden finish, retains its shiny new look for the life of your badge. Polish it as hard and as often as you like. *HI-GLO's* lustrous finish remains on and on.

A ruby colored stone set in eye of eagle, optional at extra cost, gives your badge the extra touch of quality it deserves.

See for yourself — ask your equipment supplier to show you samples of the new BLACKINTON HI-GLO badges.

Most badge designs are now available in HI-GLO.

BLACKINTON

Please send me your free folders and complete information on BLACKINTON badges.

Name.....

Address.....

.....

☐ I would like to know more about the new *HI-GLO* metal badges.

V. H. BLACKINTON & CO., INC., 120 Commonwealth Ave., Attleboro Falls, Mass.

BLACKINTON badges are furnished nationally through equipment suppliers and uniform manufacturers.

Kamiah, Idaho—Sports shop, restaurant and pool hall destroyed.

Arthur, Ill.—Progress Manufacturing Co. casket plant heavily damaged. Explosion.

Chicago, Ill. — Tamms Industries, powdered paint firm, and adjacent Swierenge Cartage Co., damaged.

Elgin, Ill.—Rialto Theatre destroyed; five adjoining buildings including Dickenson Hotel and eleven shops, damaged.

Freeport, Ill.—The Ranch restaurant, Freeport Photo and Hobby Center, law offices of Hunter, Hunter and Hunter, and six nearby business firms, damaged.

Freeport, Ill.—Stukenberg Department Store and another building destroyed; three others damaged.

Kankakee, Ill.—H. H. Troup Lumber Co., destroyed; other buildings damaged.

Menard, Ill.—Menard State Prison warehouse damaged. Faulty wiring.

Pekin, Ill.—Frank Rosenberg Furniture and Hardware Store destroyed.

Peoria, Ill.—Insulation Dealers & Supply Co. building destroyed; two buildings damaged.

Springfield, Ill.—State-owned dwelling of Conservation Director Glen Palmer and adjoining warehouse, destroyed.

Thomasville, Ill.—Thomasville Grain Co. elevator destroyed.

Anderson, Ind.—Everybody's Oil Co. building damaged.

Griffin, Ind.—Grain elevator and crib of R. W. and D. H. Garrett, destroyed.

Indianapolis, Ind.—Stark & Wetzel Meat Packing Co. warehouse damaged.

Monticello, Ind.—Northern Indiana Public Service Co. building damaged. Oil furnace explosion.

Elgin, Iowa—Elgin Co-operative Co. feed mill and grain elevator destroyed.

Kansas City, Kans.—Office building of City Structural Steel Co. damaged.

Kansas City, Kans.—Rothchild Clothing Store, and Women's Apparel Shop, destroyed; Katz Drug Store and other shops damaged.

Dayton, Ky.—First Presbyterian Church destroyed. Defective electrical wiring.

McCarr, Ky.—Store, offices and post office of Empire Coal Co. damaged.

Breaux Bridge, La.—Charles A. O. Girard & Son Hardware & Farm Equipment Store destroyed.

Baltimore, Md.—Gatch Memorial Methodist Church destroyed.

Springfield, Mass.—Butterly Building, housing Yale Clothing Company and State Division of Unemployment, damaged.

Lisbon, Me.—Office and Laboratory building of Bonafide Mills destroyed.

Millinocket, Me.—Gonyas Garage destroyed; Ernest O'Connel's store, First National Supermarket, apartments damaged.

Northport, Me.—Town school building destroyed.

Charleston, Mass.—First Congregational Church destroyed.

Melrose, Mass.—Hopkins Confectionery Co., Odd Fellows Building, Bringham's Building, Curtain Shoppe, Blair's Food Store, and Army & Navy Store, damaged.

Revere, Mass.—Abraham Lincoln Junior High School damaged. Arson.

Almont, Mich.—Produce cold storage building damaged.

Battle Creek, Mich.—Potato warehouse and packing plant on C. E. Gilger farm, destroyed.

Clare, Mich.—Seven buildings housing Western Auto Supply Store, Chuck's Tavern, Guiette's Paint & Wallpaper store, Grove Bros. Variety Store, Barnes Cafe, Gamble Store and Menthen Cafe, damaged.

Grand Blanc, Mich.—International Harvester Co. farm equipment store, adjacent bar, dental office and drug store, destroyed.

Holland, Mich.—Wooden Shoe Factory and Wooden Shoe Diner, destroyed.

Marshall, Mich.—Perma-Bilt Homes, Inc., plant damaged.

Midland, Mich.—Producers Transit Co. plant and four trucks, destroyed.

Paw Paw, Mich.—State Highway Department garage destroyed.

Romulus, Mich.—Midwest Supermarket and Romulus Department Store, destroyed.

Stanton, Mich.—First Congregational Church damaged.

Utica, Mich.—Utica Junior High School damaged.

Bagley, Minn.—Confectionery store of Stanley Day, Leonard Rognlien's tavern, drug store, apartment and building owned by Frank Martin, destroyed.

Minneapolis, Minn.—Doctors Memorial Hospital damaged. Short-circuited Christmas tree.

Waldorf, Minn.—Building housing Ewerts Fairway General Store and apartment, destroyed.

Hattiesburg, Miss.—Gymnasium of Petal High School destroyed.

St. Louis, Mo.—Park Methodist Church damaged.

St. Louis, Mo.—St. Louis Candle & Wax Co., damaged.

Billings, Mont.—Empire Heating & Plumbing Co., and Yellowstone Electric Co., damaged.

Kalispell, Mont.—McElroy and Wilkins Premix plant destroyed. Oil burner exploded.

Omaha, Nebr.—Colony Club, restaurant and cocktail lounge, destroyed; Service Life Insurance Co. offices, Cook's Photo Shop and Koran's Omaha Truck Co., damaged.

Nashua, N. H.—Chuck Wagon Inn destroyed.

Englewood Cliffs, N. J.—The Hearth Restaurant destroyed.

Phillipsburg, N. J.—Service station on Memorial Parkway destroyed.

Riverside, N. J.—Elementary School building damaged.

Albuquerque, N. M.—Electrical equipment warehouse damaged. Explosion.

Albion, N. Y.—Wood & Sprague Milling Co. flour mill, damaged.

Hamilton, N. Y.—Two business buildings housing Hamilton Bowling Alleys, Hamilton Frozen Food Locker, and Hamilton Farm Equipment Co., destroyed; three dwellings damaged.

Homer, N. Y.—Dairy barn on Walter Burtis' farm, destroyed.

Old Westbury, N. Y.—Mansion of Alan J. Corey, Jr. destroyed.

Port Washington, N. Y.—Cottage for nurses' aides near St. Francis Hospital destroyed. Arson.

Syracuse, N. Y.—The fifty-year old First Methodist Church and the adjoining building housing the First Wesleyan Methodist Publishing

ATTENTION!

Fire Chiefs Everywhere...

Here is the NEW Stryker EMERGENCY SPLINT*

Simple to Apply • Effective • Comfortable

More and more fire and police departments are using the Stryker Emergency Splint because of the simplified method of application. It doesn't require special training to immobilize fractures and the patient can be handled with comfort.

The Stryker Emergency Splint combines shaped aluminum half sections with built in padding and traction to completely immobilize the limb. Moderate, uniform compression controls bleeding and swelling. X-rays can be taken without removing the splint, allowing the fracture to be set immediately. Lightweight.

*Patented

Send me:

_____ No. 6065 Emergency Splint, pair in protective cover.....$59.00
_____ No. 60 Emergency Splint, 36" (adult leg)..... 33.00
_____ No. 65 Emergency Splint, 30" (adult arm, child legs & arm) 28.00

☐ Please send me list of users and additional data. ☐ Bill to:

Name _____

Address _____

City _____ **State** _____

Stryker SURGICAL AND HOSPITAL EQUIPMENT Dept. FE-2

Orthopedic Frame Company

420 ALCOTT STREET • KALAMAZOO, MICHIGAN

Distributed in Canada by: Fisher & Burpe, Ltd., Winnipeg Exclusive Agent for Export: Schueler & Co., 75 Cliff St., N. Y.

Association were destroyed; three adjacent structures were damaged.

Tupper Lake, N. Y.—Holland House Hotel, and three adjacent stores including A & P Market destroyed.

Mount Airy, N. C.—Hines Pallet Co. destroyed.

Pinehurst, N. C.—Building owned by Pinehurst, Inc., housing weekly newspaper, weekly magazine and hardware, paint and feed stock, damaged.

Southern Pines, N. C.—Highland Pines Inn housing Air Force Air-Ground Operations School, destroyed.

Cleveland, Ohio—Midland Steel Products Co. plant damaged.

Defiance, Ohio—Jack and Jill Store, Rettings Music Store and Jay's Men's Store, damaged. Space heater.

Findlay, Ohio—Four sheds of National Refining Division, Ashland Oil & Refining Co. destroyed.

Findlay, Ohio—Davis Fertilizer Co. plant damaged.

Warrensville Heights, Ohio—Bryant Industrial Products Corp. aluminum factory damaged.

Waterville, Ohio—Building housing Melcor Industries, and Farnsworth Market, damaged.

Windsor, Ohio—Westhaven Mfg. Co. metal box finishing plant and adjoining post office damaged. Defective oil furnace.

Oklahoma City, Okla.—Classen High School damaged.

Coos Bay, Oregon—Arcade Apartments destroyed.

LeGrande, Ore.—Schomes Bakery and Photo Album store damaged. Faulty natural gas furnace.

Dunmore, Pa.—Carbondale Grate Bar Co. plant destroyed.

Hanover, Pa.—Thompson Trailer Co. plant destroyed. Spark from machine.

Hungerford, Pa.—Warehouse of Hungerford Packing Co. destroyed.

Philadelphia, Pa.—Press Building housing shops and offices destroyed.

Philadelphia, Pa.—Graber Machine Works, Campbell Water Wheel Co., Allister Manufacturing Co., and Avonshire Pratt Co., Ltd., destroyed.

Sheffield, Pa.—Calvary Baptist Church, and building housing restaurant, destroyed.

Tarentum, Pa.—Tarentum Valley Daily News plant damaged.

Warminster, Pa.—Warminster Hosiery Co. mill destroyed.

York, Pa.—North Lehman Street apartment dwelling damaged.

East Providence, R. I.—Providence Ice Cream Cone Co. damaged.

Greenville, S. C.—Greenville Lumber Co. building damaged.

Laurens, S. C.—Dendy Brothers Grocery Store No. 1 and Laurens Drug Store destroyed; nearby building damaged.

Sioux Falls, S. D.—Park Ridge Piggly Wiggly Supermarket damaged.

Chattanooga, Tenn.—Lookout Supply Co., damaged.

Chattanooga, Tenn.—Sims Collar & Leather Co. destroyed.

Decaturville, Tenn.—Decaturville High School building destroyed.

Kingston, Tenn.—White Way Cafe destroyed.

Memphis, Tenn.—Thomas' Gilt Edge Department Store destroyed.

Nashville, Tenn.—Lumberman Supply Co. destroyed.

Somerville, Tenn.—Longtown Supply Co. destroyed. Burglars' acetylene torch.

Tiptonville, Tenn.—Sawmill at Headden Lumber Co. destroyed.

Dallas, Texas—Warehouse of the Yellow Transit Co. damaged; twenty-seven trailers, destroyed; Merchandise loads on trailers, destroyed.

Fort Worth, Texas—Clubhouse of Meadowbrook municipal golf course destroyed.

Houston, Texas—Office of Dr. W. J. Stork, damaged.

Houston, Texas—Container division plant of St. Joe. Paper Co. destroyed.

Royse City, Texas—Main building of Burton Motor Co. destroyed.

Falls Church, Va.—Building housing Jenkins Sheet Metal, Inc., Electronics Engineering & Service Co. Inc., and A. & F. Electrical Contractors, destroyed; other businesses damaged.

Suffolk, Va.—Spivey Motor Co. showroom and office destroyed.

Bremerton, Wash.—Seaback Elementary School destroyed.

NEW "QUAKER 100" is made from extra-long staple cotton, chemically treated to keep its flexibility and reduce elongation.

NOW! 1½" DOUBLE JACKET MUNICIPAL FIRE HOSE IN 100-FOOT LENGTHS!

It's new "Quaker 100"—a 600 lb. hose. And it's quick drying, easy to pack and fold!

● ***It's light!*** One coupled length of "Quaker 100" weighs only 34½ lbs.

● ***It's strong!*** Specially treated cotton provides at least 10% more strength in each warp strand woven into the jacket. (Average burst pressure per three foot length is 1200 lbs.)

● ***It's quick drying!*** "Quaker 100" absorbs 25% less water than conventional 600 lb. dacron filler hose.

● ***It goes into action quickly!*** 100 feet long, "Quaker 100" reduces by 50% the danger of couplings pulling off or snagging.

SEE THE SAVINGS! See how easy "Quaker 100" is to use and maintain! Call your Quaker-Quaker Pioneer distributor today. For free brochure, write: *H. K. Porter Company, Inc., Quaker Rubber Division,* Philadelphia 24, Pa., or *Quaker Pioneer Rubber Division,* Pittsburg, Calif.

HKP

QUAKER RUBBER DIVISION
QUAKER PIONEER RUBBER DIVISION
H. K. PORTER COMPANY, INC.

Officials of Discerning Judgment
SELECT DARLEY FIRE APPARATUS

Fire Dept. Officials of discerning judgment select Darley Fire Apparatus for they know Darley gives greater value, because —

We manufacture BOTH Champion Fire Pumps and Champion Fire Apparatus — engineering design, workmanship, materials are to highest standards — top performance is assured through long years of faithful service.

And only Darley gives you a lifetime pump guarantee.

A few Territories open for Sales Representatives. Write us.

Write for Fire Apparatus Booklet and Fire Equipment Catalog

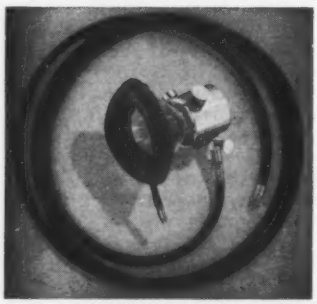
Factories — Chicago and Chippewa Falls, Wis.

W. S. DARLEY & CO., CHICAGO 12

AT YOUR SERVICE: Sales and Service Representatives — East, Midwest, North, South

TREAT MORE PATIENTS WITH YOUR E & J RESUSCITATOR

by adding



E&J

MICRO EXTENSION UNITS

Complete, independent resuscitation-inhalation treatment for two- or three-patient emergencies. Write for details.

E & J MANUFACTURING COMPANY, 100 E. Graham Pl., Burbank, Calif.

Centralia, Wash.—Pantorium Cleaners damaged.
McCord Air Force Base, Wash.—Two hangars, four planes and equipment, destroyed.
Montesano, Wash.—Oakes Dance Hall destroyed.
Spokane, Wash.—Summer home of Walter Toley and adjoining buildings, destroyed.
Spokane, Wash.—Zepp Inn destroyed.
Spokane, Wash.—New Method Laundry destroyed.
Sunnyside, Wash.—Mojonnier & Son potato warehouse damaged. Ignition of oily rags.
Tenino, Wash.—Pacific Power Co. damaged. Nitroglycerin explosion.
Toppenish, Wash.—Donna Hotel destroyed.
Charleston, W. Va.—Restaurant and curtain shop destroyed; record shop and fruit stand damaged.
Newell, W. Va.—Metsch Refractories, Inc. plant damaged.
Parkersburg, W. Va.—Matheny Motor Co. plant damaged.
Pennsboro, W. Va.—Trinity Methodist Church destroyed; nearby parsonage damaged.
Ashland, Wis.—Menard Hotel destroyed.
Milwaukee, Wis.—Max Branovan Shoe Store damaged.
Anchorage, Alaska—Malamute Saloon, Pay-Take Grocery and Anchorage Electrical Supply destroyed.
Fairbanks, Alaska — Northward Building destroyed.
Edmonton, Alta.—Hudson Bay Oil & Gas Co. well damaged.
Squamish, B. C.—New Port Hotel destroyed.
Vancouver, B. C.—Three-story Howden Block and Dustin Co. warehouse destroyed; Federal Transport Department damaged.
Guelph, Ont.—Eileen's Flowers, greenhouse, damaged.
Hawkesbury, Ont.—Hawkesbury Steel Works, Ltd. destroyed.
Ottawa, Ont.—Ten buildings including Victoria Hotel, Chez Lucien Hotel, Federal Government Printing Bureau warehouse, apartment dwellings, rooming houses and business, destroyed.
Rouyn, Ont.—Skimobile Co. plant destroyed.
Valleyfield, Ont.—Thirty-two buildings including businesses and apartments, destroyed.
Montreal, Quebec—Johnny's Tire Shop destroyed; apartments damaged.
Montreal, Quebec—Two 50,000-gallon tanks, many smaller tanks and a string of railway tank cars destroyed at Shell Oil Co., Ltd.
Montreal, Que.—St. Elizabeth du Portugal Roman Catholic Church destroyed.

"Eyewitness" Held as Firebug

A college student was detained by police in Wichita, Kan. recently after a series of fires in the Hotel Lassen. Five separate fires caused several thousand dollars damage but fortunately no one was injured. Charles L. Naylor, 26, the suspect, described by officials of Wichita University as a brilliant student, denied setting the fires.

The first blaze was discovered in a linen closet about 1:35 a.m. and the second shortly thereafter in a hallway storage area. According to police, Naylor assisted the firemen to some extent but principally just stood around and asked questions. After the fires were extinguished he went to a local newspaper and told the night news editor that he wanted to write an eyewitness account of the fires. He wrote a story that praised the efforts of the fire department and the assistance of the hotel employees and bystanders, including himself.

Police said that Naylor then returned to the hotel where three more fires broke out immediately. He was arrested when officers discovered that he was not a reporter.

Firemen Rescue 200 Grand at Las Vegas Casino Fire

Downtown Las Vegas was the scene of one of the worst fires in that southern Nevada city's history on the night of November 25, 1956, when flames of suspicious origin swept the Boulder Club, gambling casino causing damage estimated at more than $200,000. Nearly 2,000 patrons fled from the flames as employees, aided by police and firemen, brought all of the casino's $200,000 in cash into the street and waiting police cars for safekeeping.

The first alarm reached Las Vegas Fire Department headquarters at 6:30 p.m., bringing Engines 1 and 6, ladder 1, Tanker 2 and Rescue 1. Subsequent alarms brought three additional engine companies under Chief E. C. Gates.

Upon the arrival of the first companies, the fire had already broken through the roof. Because of the lack of fire stops in the old structure, the roof fell in on the second floor. Further hazards occurred when large evaporative coolers on the roof fell through.

Efficient work by fire fighters was credited with preventing the spread of the blaze to the adjacent Apache Hotel and the Horseshoe Club located on its first floor. One 2½-inch line was placed on the three-story hotel to protect it.

Engine 6 pumped to three 2½-inch lines and Engine 1 supplied one 3-inch line and two 2½-inch lines, including one line to the aerial pipe.

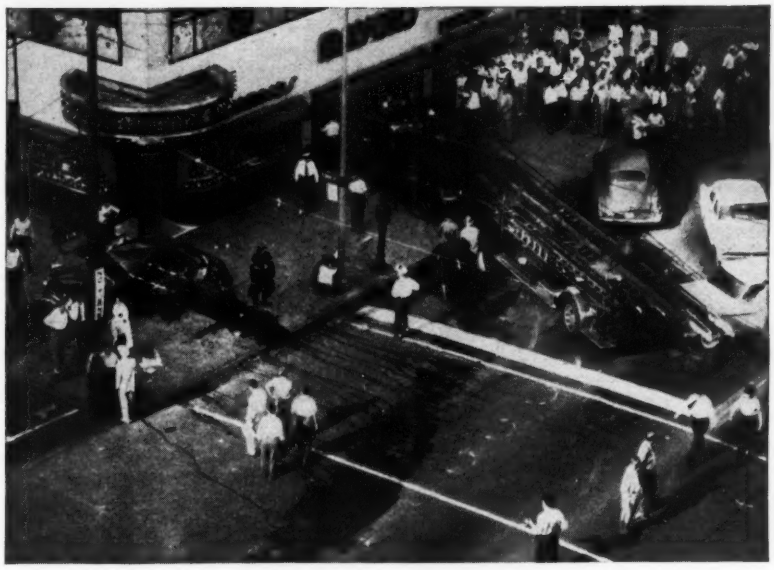
Five firemen were treated for minor injuries, with Captain George Contner hospitalized overnight. An elderly custodian was rescued from a second floor window by firemen.

All of the club's gambling equipment, including approximately 150 slot machines and more than 15 dice tables, roulette wheels and other devices were destroyed. Chief Gates reported suspicion of arson and requested that an investigator from the National Board of Fire Underwriters be assigned to the fire.

Cliff Dektar

Las Vegas firemen pour water on raging flames of Boulder Club. All of the casino's expensive gambling equipment was destroyed in the fire

Eliminate This!



with EL-TEC

RADIO TRAFFIC CONTROLLERS

Crashes like this Cost Lives . . . Property . . . Money . . . and tie-up badly needed equipment and highly trained personnel. *These tragedies virtually can be eliminated!*

The driver of an emergency vehicle can have uncontested, clear right-of-way for blocks ahead . . . he can stop all traffic on his route. He does it with EL-TEC, an electronics system for controlling traffic from a moving emergency vehicle.

EL-TEC is new, but years of research and development have proved its dependability. The system and equipment have been hailed as the most important stride in emergency traffic safety in many years.

EL-TEC has been commended by the nation's leading police, fire and traffic officials as well as various State Safety Committees and Highway Commissions.

Electronic Protection Inc.

Subsidiary of Standard Coil Products Co. Inc.

2081 North Hawthorne Avenue - Melrose Park, Illinois

The Only FCC Approved System For Emergency Traffic Control

6401

GET THE FACTS!
SEND COUPON TODAY!

You owe it to yourself, your community, your firemen, policemen and all emergency drivers to learn how low-cost, reliable EL-TEC Radio Traffic Controllers can save lives, prevent suffering, cut down property damage, keep all emergency equipment "in service."

ELECTRONIC PROTECTION INC.
Subsidiary of Standard Coil Products Co. Inc.
2081 North Hawthorne Avenue, Melrose Park, Illinois.
☐ Please have representative call.
☐ Please send literature on EL-TEC.
Name_____
Title_____
Address_____
City_____ State_____

THE WATCH DESK

overhauling the firemanic news of the day

Where Is the Fire?

Donald Johnson, a field engineer for the NFPA, was conducting a survey in a small Massachusetts town recently when a grass fire was reported. The chief took two of the three paid men on duty with him and answered the call with one pumper. Shortly thereafter a call for a resuscitator was received and the remaining paid man hurried off leaving Mr. Johnson alone in the station.

Mr. Johnson began thinking of what might happen if another alarm came in when at that moment the phone rang and he answered it. An excited woman shouted that her stove was on fire and gave her name. Mr. Johnson asked the woman where she lived as any stranger might do.

"Well of all things," the woman exclaimed. "You tell me you don't know where I live when I've been here for 31 years!" With that she hung up.

Johnson decided he had better do something so he drove the remaining pumper to a nearby corner where a policeman was directing traffic. The officer was astonished at Johnson's questions but he quickly grasped the situation, climbed aboard the fire truck and directed Johnson to the scene. The fire was put out with a hand extinguisher.

When Johnson returned to the station and told the chief about the unusual incident, all present were amused. The angry woman lived next door to the fire chief!

Hot Off the Tape

Fire on the night of November 21 last, destroyed the offices and warehouse of Goldsmith-Sydnor, Inc. in Huntington, W. Va., a wholesale tobacco and novelty company which advertises *Our Business Smokes.* Fire Chief John Gallagher termed it "one of the toughest smoke fires we have ever fought." Three firemen were overcome. . . . In Chicago, a 15-year-old boy whose father said he is "crazy about firemen," admitted setting 20 fires to "help put them out or watch firemen at work." One blaze did $100,000 damage. . . . Just as the closing bell rang out the old year on the New York Stock Exchange, December 31, the last stock to appear on the ticker was that of the Gamewell Company. Price up four points since the start of 1956, and doing right well, thank you. . . . Six tank cars of chemicals on a Missouri Pacific train were derailed in Houston, Tex., dumping poisonous chemicals in a thickly populated area and forcing evacuation of some homes. Firemen (according to the press) armed with "fire fighting chemical guns," quickly ended the threat to some 50 families. . . . Orchids for the month might well go to Fireman John Thompson of the Mount Vernon, N. Y., Fire Department who ended the year, and began the new year on the city's hero list. On December 31 he rescued four boys from the waters of Huguenot Lake when ice collapsed beneath them and on New Year's Day he crawled out on Bergholtz Lake to rescue a duck whose webbed feet were trapped in ice. . . . A group of loggers near Roseburg, Ore., started a fire to warm their hands on January 2. The fire got away from them and set the forest afire. On the 3rd it snowed and put the kibosh to the blaze.

A Sad "Tail"

Science has rushed in where rats and mongooses or is it mongeese, fear to tread. Yes, over in Jersey the Fords Fire Department vamps called in the services of wild and tame rats, and then trained and untrained mongooses, or whatyoumaycallems, to pull a string through a 730-foot pipe beneath the New Jersey Turnpike.

If they succeeded, a wire would have

DEMAND *the new-improved*
ELKHART TRI-LOC NOZZLE HOLDER

In the past year, the fire service has been deluged with an imitation of our obsolete Tri-Loc Holder sold under the name Tri-Loc. Many customers who have received these unknowingly in place of the genuine Elkhart Tri-Loc have had unsatisfactory service.

For the finest and best, specify Elkhart No. 653 (sizes 1½" or 2½") on your next requirement to the following specifications:

- Three moveable lugs—Insures perfect three point contact.
- Heavy, preformed, reinforced, wrought brass base.
- Automotive type, heavy duty, flat coiled spring for longer service.
- Extruded lugs—Insures close tolerance, greater strength.
- Our name stamped on base.

ELKHART BRASS MFG. CO., Inc.
ELKHART INDIANA

then been pulled through after the string, to set up a fire alarm system for 400 families in the Lafayette Estates housing development of Woodbridge. But the animal act fell through and the string and the wire failed to go through.

So, when the rats turned tail on him, electrical contractor Louis Salmon, who had the unhappy job of "fishing the wire," tried out a mongoose. And at first it looked like the answer. But although Mr. Mongoose went through the pipe like a—youknowhat—on the test run sans string, he balked when it came to the string.

His owner suggested to Salmon that perhaps Mr. Mongoose—called "Pop"—might easily go the distance of he had something specific to chase, like, say a Mrs. Mongoose. So another mongoose fancier was found and he brought two more of 'em to the pipe line. While 500 persons watched in the cold and snow, the three Mongooses were let loose in the pipe singly and in combination—but not even endearing words, tempting food, or blasts of compressed air would budge 'em. It developed they were all he-mongooses.

Meanwhile, the Board of Fire Commissioners, and the vamps were left holding the pipe.

After more experiments with psychologists, buffs, compressed air, hot air, cold air, the animals were given the air—and finally a professional pipe wire "fisher" was called in and in no time he had the wire strung, and the fire alarm system was in business. In this scientific day and age, it doesn't pay to ignore the "experts."

Date With the Fire Department

The engineer of the Pennsylvania Railroad's slick new aero-train really highballed December 4 to keep an urgent date with—a fire department.

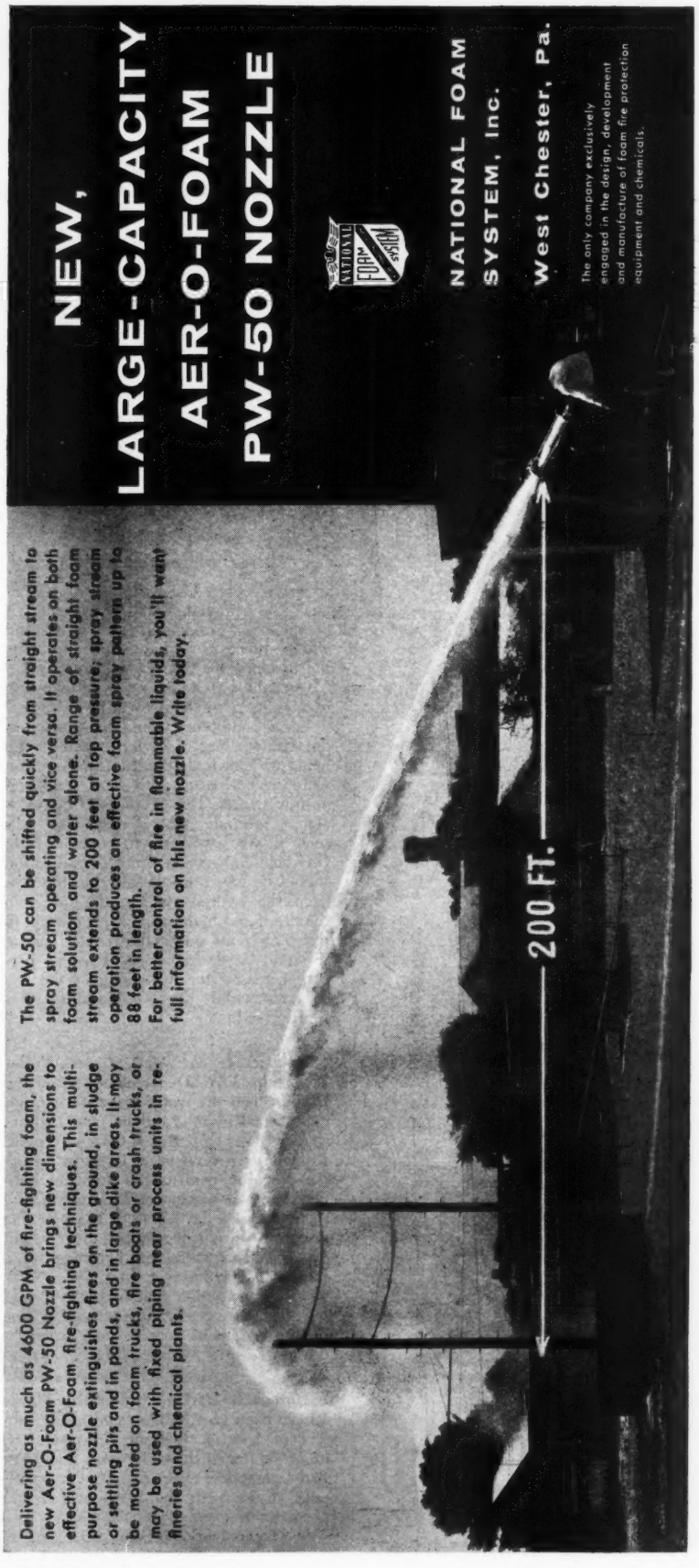
Near Johnstown, Pa., the rear car of the 10-car deluxe train caught fire. Trainmen hastily moved passengers to the forward cars and alerted railroad towermen with their radiophone.

The towermen quickly arranged a "meet" order for the train and the Portage, Pa. Fire Department, four miles away. The Portage lads extinguished the blaze. No one was injured, and the train continued its way to New York with the damaged car still attached.

Gunga Din Vamps

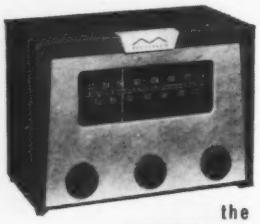
Seventeen fire departments of Albany County, N. Y., operating under the Civil Defense mutual aid system of the area, cooperated on November 17 last to raise the reservoir level of parched Altamont, N. Y., to temporarily alleviate the critical water shortage.

About 200 firemen, most of them volunteers, operating 17 pumpers, worked throughout the night bringing water to Altamont from Thompson Lake, 3½ miles distant. The pumpers were linked together in a relay hookup about 1,000 feet apart and reportedly raised the level of the Altamont reservoir by half a million gallons.


NEW,
LARGE-CAPACITY
AER-O-FOAM
PW-50 NOZZLE
NATIONAL FOAM SYSTEM, Inc.
West Chester, Pa.
The only company exclusively engaged in the design, development and manufacture of foam fire protection equipment and chemicals.
200 FT.
Delivering as much as 4600 GPM of fire-fighting foam, the new Aer-O-Foam PW-50 Nozzle brings new dimensions to effective Aer-O-Foam fire-fighting techniques. This multi-purpose nozzle extinguishes fires on the ground, in sludge or settling pits and in ponds, and in large dike areas. It may be mounted on foam trucks, fire boats or crash trucks, or may be used with fixed piping near process units in refineries and chemical plants.
The PW-50 can be shifted quickly from straight stream to spray stream operating and vice versa. It operates on both foam solution and water alone. Range of straight foam stream extends to 200 feet at top pressure; spray stream operation produces an effective foam spray pattern up to 88 feet in length.
For better control of fire in flammable liquids, you'll want full information on this new nozzle. Write today.

get
POWERFUL RECEPTION
in weak signal areas
with these ALL-NEW VHF receivers from
monitoradio

Now you can expand your communications system with the first really high quality FM receivers ever offered at popular prices. These ultra-sensitive new MONITORADIOS pull in weak signals loud and clear—built for round-the-clock duty to keep all stations constantly alerted . . . fully informed . . . effectively coordinated. Indispensable for police, fire, civil defense and similar emergency units.



the MINUTE MAN

MR-33, MR-10—Tunable FM receivers for powerful, static-free monitoring of all stations on either the 30-50 or 152-174 mc band. 3 μv sensitivity. 7 tubes plus rectifier.

the SIGNAL MASTER

MRC-33, MRC-10—For the first time, a low cost crystal-controlled receiver of quality design. Pre-set to any frequency in the 25-54 or 147-174 mc bands. 2.5 μv sensitivity. 8 tubes plus rectifier. Crystal included.

Both units feature powerful 5" speaker, fully tuned RF stage, built-in squelch. Housed in rugged metal cabinets. 110-120V, 60 cycle, AC only. U.L. approved. The Minute Man—$64.50. The Signal Master—$76.50.

Write today for information describing all MONITORADIOS—the world's most complete line of emergency receiving equipment.

monitoradio
DIVISION of I. D. E. A., Inc.
7900 Pendleton Pike,
Indianapolis 26, Indiana

the round table

discussion of current fire department and fire management problems

Placement of Hydrants in Residential Areas

THIS IS THE THIRD installment of the Round Table on placement of hydrants in residential areas.

The generous response from our readers makes it necessary to carry the discussion over to this issue. The editors will welcome any additional comments on the subject, or on next month's subject which is given in a box on a subsequent page. Address replies to Round Table Editor, FIRE ENGINEERING, 305 East 45th Street, New York 17, N. Y.

Discussion of the Subject

Steve Taylor, Chief, Boise, Ida.: I believe the nominal 1,000-foot spacing is adequate for residential fire fighting and where alternate hydrants are available, the distance may be even greater.

I would not be in favor of allowing spacing up to 2,000 feet.

Local conditions would have a lot to do with spacing of hydrants and streets being without hydrants. Some subdivision planning comes up with short dead end narrow streets. This at times is unavoidable, especially where there are hills such as we have here to contend with. On dead-end streets some consideration should be given to whether the stretch is from the hydrant to the fire, or from the fire to the hydrant. If it is practical to place hydrants on each street, I believe it would be desirable, but I see no particular reason for it as long as the hydrant is within the limits and there is free access to it.

Howard G. Attwood, Chief, Butler Township Fire Department, Vandalia, Ohio: When the water system was originally installed in Vandalia, the hydrant spacing was on the 1,000-foot basis. In the past several years I was in a position to recommend to the Board of Public Affairs on spacing of hydrants in new sections being developed in the Vandalia area. As a result of this, we are now requesting and installing hydrants on a basis of 800 to 900 feet apart.

It is my opinion that hydrants should never exceed the 1,000-foot spacing due to the amount of hose needed to fight a fire and also to cover exposures.

Horace R. Barker, Springfield, Mass.: I have been greatly interested in the subject of spacing hydrants in residential areas for more than 50 years and have had a great deal of fire department experience. I am with the Springfield Water Department.

We have had enormous expansion in new home building with the consequent demand for expansion of water mains.

Hydrants are located on all corners with a maximum spacing of only 350 feet. In fact, hydrants are more frequently laid 325 feet apart. This means more lines can quickly be laid and, last but not least, we get better nozzle pressure.

No hydrant is smaller than 6 inches and no feed main is less than 8 inches. Every main is crossed in so as to make a grid. Of course, main arteries are larger, 12 inches, 14 inches or even larger.

Leonard H. Bailke, Chief, Muskegon, Mich.: I believe the 1,000-foot spacing of hydrants is adequate for most residential fire fighting.

I would not be in favor of allowing spacing of hydrants up to 2,000 feet as most fire apparatus carries a load of 1,000 to 1,250 feet of hose. The 2,000-foot spacing would cause a hardship on the fire fighters in laying in from their line of approach should the fire be beyond their reach. This would cause delay and confusion.

Our city is pretty well equipped with hydrants on each corner in the residential area. It surely works out well when you don't have to worry whether or not there is a hydrant on the next corner, and it makes for shorter hose stretches.

I for one do not approve of streets being without hydrants.

Wilbur E. Seaman, Fire Inspector, Hempstead, N. Y.: While the spacing in our village averages about 500 feet between hydrants, I would go along with the 1,000-foot spacing in residential areas.

I would not be in favor of 2,000-foot spacing because with this spacing, after the hydrants on either side of the fire are taken, the next available hydrants would require stretches that in many cases would exceed the hose load carried on the average engine or hose company. This would require two companies to couple up and might entail a relay which

THIS MONTH'S QUESTIONS

Do you believe the nominal 1,000-foot spacing of hydrants is adequate for residential fire fighting?

Would you be in favor of allowing spacing up to 2,000 feet?

If the greater spacing resulted in some streets being without a hydrant, would you approve?

means a delay which I do not believe should be necessary where you may have a good gridiron of water mains but where you have skimped on hydrants.

I would not be in favor of streets without hydrants, unless they are short streets with hydrants at intersections, the use of which would not call for more than a 1,000-foot stretch.

J. W. Ryter, Fire Prevention Officer and Warden, Ivywild-Cheyenne Canon Fire Protection District, Colorado Springs, Colo.: This department covers an area having several new housing developments and with a population of 10,000. The nominal 1,000-foot spacing of fire hydrants is required, with business establishments getting a lower insurance rate by being within 500 feet of a hydrant.

I am a firm believer that there never are enough hydrants and that the spacing should not exceed 1,000 feet. Several problems arise with the 2,000-foot spacing, the first being the ability to carry enough hose. Hydrant pressure and friction loss in hose would be major factors.

We have in some of our newly developed areas, streets without hydrants. Although the houses are within the 1,000-foot spacing; in some cases the nearest hydrant would be across the adjoining property on the corresponding street. Although this has not been much of a hindrance, hydrants on each street would contribute to better fire protection.

There is too great a threat to life and property from fire to try and save a few dollars.

George Daniels, Chief, Roswell, N. M.: I believe hydrant spacing of 1,000 feet is adequate in residential areas where there are one-story buildings. But I feel that we should consider the size and type of buildings.

I would be opposed to allowing spacing up to 2,000 feet.

Robert Mills, Chief, Salem, Ore.: I believe the nominal 1,000-foot spacing of hydrants is adequate for residential fire fighting.

Even with proper water mains, a 2,000-foot spacing, in my opinion, is too great.

Glen A. Burdine, Chief, Rapid City, S. D.: I believe the nominal 1,000-foot spacing of hydrants is adequate for residential fire fighting.

We would not approve of some streets being without hydrants. It has been our experience that on streets where we have too great a distance between hydrants, we are confronted with several fences to cross to get to a fire or we may have to go around a block to approach the building from another side. As a result, our hose lay is too long to be of value.

The standards must be maintained on a high level in order to meet the challenge of the times.

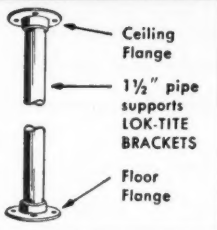
E. L. Smith, Chief, Eugene, Ore.: I believe the nominal spacing of 1,000 feet to be the maximum spacing for hydrants, both from an efficiency point of view and from an economical installation. It costs more to install hydrants 1,000 feet apart than 2,000 feet apart,

BEST SOLUTION TO YOUR HOSE STORAGE PROBLEMS

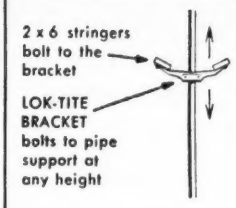
Photo Courtesy Wichita Fire Station No. 1

BUILD YOUR OWN RACKS WITH LOK-TITE BRACKETS

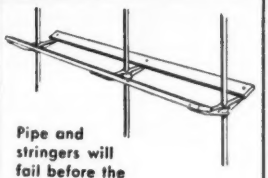
SIMPLE INSTALLATION

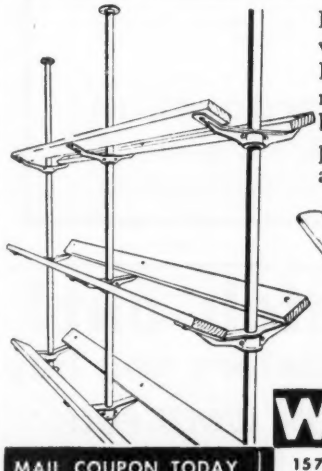


EASY ADJUSTMENT



BIG LOAD SUPPORT





Protect your hose with ample ventilation. Provide quick, easy access for use and inspection. Promote good housekeeping and make the most of your storage space, by planning and building your own racks – from new or used pipe and lumber, and handy, sturdy, fully adjustable Lok-Tite brackets.

Lightweight, high-strength aluminum alloy Lok-Tite brackets – designed for easy installation.

$3.65 F.O.B. WICHITA

W-B MANUFACTURING COMPANY
FO 3-5691
157 NORTH WACO STREET • WICHITA, KANSAS

MAIL COUPON TODAY

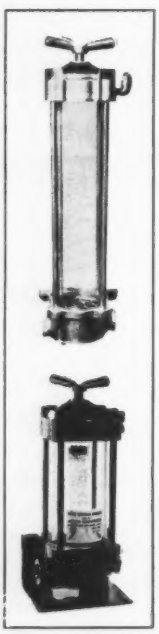
Please ship____ brackets via
☐ express ☐ freight ☐ truck
☐ We enclose check
☐ Charge to our account

SHIP TO_____
ADDRESS_____
_____
ORDERED BY_____
name and title

NOW! All the Wet Water You Need-As You Need It at Only 1/2 cent a Gallon

with the AMAZING, NEW DEYNOR FIRE-LIK CARTRIDGES and DEYNOR WET WATER MIXERS

Portable and stationary models Fully Automatic



Make one gallon do the work of five - end water run-off - with FIRE-LIK cartridges and the DEYNOR WET WATER MIXER. Each wet water cartridge provides 1,000 gallons or more of fire-fighting solution as you need it. Multiphase. Odorless, stainless, non-toxic.

PRICES:	"WET WATER MIXER" 200 *	$99.50 ea.
	" " " 200-P **	$95.00 ea.
	"FIRE-LIK" Cartridges, carton of 12	$60.00 cartn.

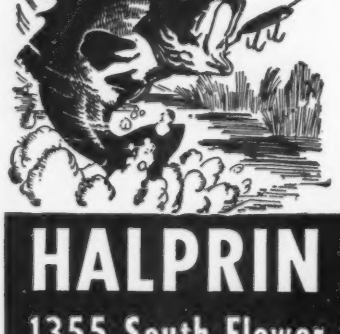
* RED ENAMEL & LUCITE – FOR FIRE TRUCKS & OTHER PERMANENT INSTALLATIONS
** " " " – PORTABLE

Order today from:

Deynor Corporation

1 Depot Plaza Mamaroneck, N.Y.

DEALERS: A few choice territories still available.



watch out!

—before you buy

for the LOWEST PRICE,

TOP Brands & PROMPT Service

SEND FOR COMPLETE CATALOG

HALPRIN SUPPLY CO.

1355 South Flower St., Los Angeles 15, Calif.

NEXT MONTH'S QUESTIONS

Do members of your fire department have power to issue summonses relating to: (a) traffic or (b) interference, or other actions on the fire ground?

If so, who must issue summons (a) officer (b) chauffeur or driver (c) any fireman?

Is the assistance of the police department or traffic officer invoked in any way in issuance of summons, and prosecution of offender?

What is the procedure followed in issuing (a) traffic summons (b) other (such as interference with firemen in performance of their duty, etc. as distinct from fire prevention violations). Please explain steps taken.

but the related costs of hose, equipment, etc., offset most of those savings, thus promoting a more efficient operation.

Bernard J. Padgett, Chief, Alexandria, Va.: I do not believe that a spacing of 1,000 feet is adequate in residential areas. This is the minimum requirement of the Virginia Rating Bureau, but we install all hydrants within 500 feet of a building in residential areas.

I disapprove of a spacing up to 2,000 feet. Most of our fire fighting is done with preconnected fog. Our maximum stretch of 2½-inch hose is 1,000 feet. Hydrants spaced great distances apart seriously handicap this method of fire fighting.

Frederick A. Perkins, Jr., Chief. Newton, Mass.: I believe the nominal 1,000-foot spacing of hydrants is adequate for residential fire fighting in most cases. In areas such as we have in Newton where we still have many of the old fashioned mansion-type dwellings of from 16 to 20 rooms, I maintain that hydrants should not be spaced more than 800 feet apart, due to the volume of water and pressure needed to combat such fires.

I would not be in favor of allowing spacing up to 2,000 feet.

E. C. Gates, Chief, Las Vegas, Nev.: I believe the nominal 1,000-foot spacing of hydrants is adequate for residential fire fighting. In this case, with the normal hose load carried on a triple combination, it is possible to stretch two 2½-inch lines simultaneously.

I am not in favor of spacing hydrants 2,000 feet apart. If this spacing were allowed, the above would not be possible and quite often two lines would be necessary.

I believe there should be a hydrant on every street to facilitate getting water on the fire as rapidly as possible. This is difficult enough at times without adding further encumbrances.

Karl Evans, Chief, Reno, Nev.: I believe the 1,000-foot spacing of hydrants is adequate for residential fire fighting.

So many things must be taken into consideration in controlling the spread of a fire. I believe a spacing of 750 feet from hydrant to property should be the limit if water service is available.

I am not in favor of allowing spacing up to 2,000 feet.

B. L. Warlick, Chief, Jackson, Tenn.: I do not believe the 1,000-foot spacing is adequate for residential fire fighting and would definitely be against a spacing up to 2,000 feet. To my mind, this is an excellent way to lose property by allowing such practice.

A. W. Bilby, Chief, Montclair, N. J.: All hydrants in Montclair are spaced 500 feet apart. We would not be in favor of allowing spacing up to 2,000 feet.

E. G. Durocher, Chief, Westmount, P. Q.: I would like to submit for this discussion excerpts from "Municipal Fire Administration" as they refer to placement of hydrants:

"In general, hydrants should be placed with consideration of their possible use as reflected in the hazards of the locality. Hose lines more than 400 to 500 feet long are inefficient and a source of delay. Therefore hydrants should not be distributed more than 300 or 400 feet from the buildings to be protected. Furthermore, friction losses use up pressures available in hose lines at a rapid rate, and this factor definitely limits hose lines direct from hydrants; pressures available are seldom more than 100 pounds. Under these conditions, lines must be kept shorter by several hundred feet than in the case of lines from pumpers, to prevent undue friction losses. This means that under such conditions hydrants must be spaced about 100 feet closer together. If hydrants are widely spaced (500 feet or more) the effective capacity of pumpers is reduced because of the higher pressures at which they must deliver.

"There are several other reasons that hydrants should not be too widely spaced such as hydrants out of order, frozen hydrants in winter time, hydrants knocked down by accidents, etc."

Zephrin F. Drouin, Chief Engineer, Lewiston, Maine: The 500-foot limit of hydrant spacing is being enforced here and shall be for years to come after I am retired from the service, I hope.

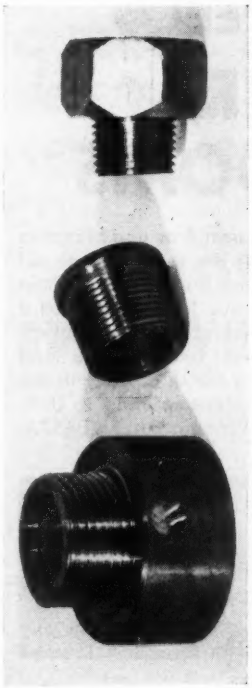
I have witnessed the destruction of many private dwellings because of the fact that hydrants were spaced too far apart. In some cases during the winter months, the nearest hydrant was defective or frozen and inoperable.

I cannot agree with any fire chief who believes the nominal 1,000-foot spacing is adequate for residential fire fighting, whether he lives in Florida or in Maine. Even if you do not have to be concerned with frozen hydrants and snow, when you have a fire, you need water quickly. I have seen too many fires in my 35 years' experience to depend on just one hydrant. In some cases in our outlying districts, our supply mains are but four inches in size, and pressures are too low, requiring relaying operations.

To meet the requirements of 1,000-

SPECIFY **BAR-WAY,**

THE ACCEPTED STANDARD FOR HIGH PRESSURE HOSE COUPLINGS . . .



1. **RELIABLE**—Bar-Way builds to quality standards. We make the best possible.
2. **NO-CHOKE**—Coupling resistance to flow within plus or minus 2% of equivalent hose length.
3. **HIGH-SLIP**—Non-snagging design so that all models slip over ground obstructions.
4. **STANDARDIZED**—Interchangeable parts, 100% inspected; made on automatic equipment.
5. **STOCKED**—Shipments made from stock on all standard types from Stamford.

WHAT'S NEW

Specials are no chore for the Bar-Way shop. For one quality-minded fire truck manufacturer we made sets of stub ends with swivel nuts (non-standard!) so that chemical booster hose could be directly connected to a tapered iron pipe thread female connection. Consult us on all your coupling problems.

BAR-WAY **BAR-WAY** MFG. CO., STAMFORD, CONN.

IMPORTANT ANNOUNCEMENT

TO
USERS OF BARTON-AMERICAN
FIRE PUMPS

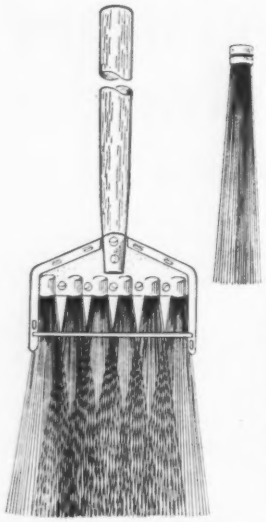
We have moved the fire pump division to our new modern plant, designed especially for manufacturing the famous Barton-American front and midship mounted, also portable pumps for Fire Department Service.

Please address future correspondence and orders as follows:

AMERICAN FIRE PUMP COMPANY
803 Main Street Road Battle Creek, Michigan
Telephone: WOodward 2-8768 P. O. Box 219

AMERICAN-MARSH PUMPS

The Choice of Chiefs All Over The Country!



STEEL FIRE BROOMS

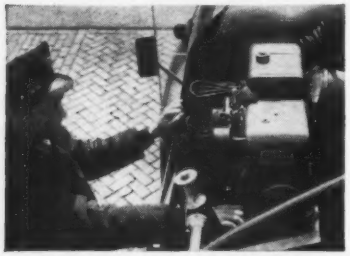
Ideal for fighting forest fires and blazes in brush or grass. Can be used to beat out flames and sweep up brush and debris in salvage and clean-up operations. Extra long fillers, easily replaceable, are not affected by severe heat and will give long service. Accepted by the U. S. Army as the standard in their field, according to U. S. Government Specification MIL-B-20657A.

Full Line of Wire Chimney Sweeping Brushes, all sizes, with Flexible Handle Extensions.

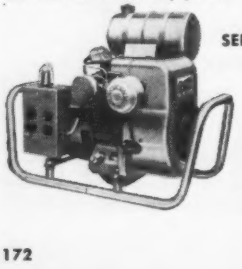
Ask For Them By Name! Specify WORCESTER Brooms & Brushes!

WORCESTER BRUSH AND SCRAPER CO.
Division of
MASON-WORCESTER BRUSH CO.
38 AUSTIN ST. WORCESTER 1, MASS.

1. Carry them by hand right up to the fire...operate power tools and lights.



2. Mount them on rigs to power searchlights and other motor-driven equipment.



SERIES 105AK
1,500 watts;
125 pounds

ONAN Electric Plants help you fight fires all 3 ways!

ONAN portable models combine light weight with 4-cycle quick starting, long life and all-around dependability. Quick release bases are available on many models permitting instant removal of the units from fire rigs. Onan Standby Plants from 1,000 to 50,000 watts assure electric power for fire stations, headquarters departments and radio communications. Air-cooled models can be equipped with Onan's exclusive Vacu-Flo cooling system allowing installation in closed rooms or compartments.

3. EMERGENCY STANDBY POWER
Installed in the fire station or department, they supply all electricity required when power is interrupted.

Write for Folder on fire department models

D. W. ONAN & SONS INC.
3115 Univ. Ave. S. E., Minneapolis 14, Minn.

foot minimum hydrant spacing, one would have to have an excellent water supply with large mains and pressures, coupled with an excellent gridiron system and structures of fireproof material.

The paramount factors to be considered in hydrant spacing are the following:

1. Present and future consideration of a growing community, its industries, residential areas, occupancies, types of construction, exposures, etc.
2. Consideration of water supply.
3. Consideration of the "possible unforeseen" disaster such as a fire of a delayed alarm nature, or of an aircraft crashing in the city.

Since I have taken over as chief, I have asked that at least seven hydrants be installed each year. Like other fire chiefs, the question of budget enters the picture and my recommendations are often laid aside for other projects which the city fathers consider more important.

The responsibilities of a fire chief are many and even though such things as an excellent water supply, fire resistive construction, minimum building construction might be present, I'd still prefer to have hydrants spaced 500 feet apart. When a man meets Frankenstein with only a 22-caliber gun, he should depend on more than one bullet for his safety.

K. R. Putnam, Chief, Kitchener, Ont.: Hydrant spacing in this municipality has a definite bearing on insurance ratings in residential areas.

The water commission and the fire department work in close cooperation in planning locations for hydrant installations so that the distance between hydrant and property is not more than 500 feet and those people living at a greater distance from a hydrant are assessed a larger rate.

I would consider the 1,000-foot spacing adequate for residential fire fighting. This might even be increased to a distance of 1,400 feet in sparsely built-up areas. But under no circumstances would I favor spacing of 2,000 feet. On the basis of 2,000 feet, we would have many of the shorter streets without any hydrants at all, and this, in my opinion, is not sound planning for adequate fire protection.

F. E. Saefke, Chief, Fargo, N. D., and **Charles C. Carrico, Chief, Great Falls, Mont.,** believe that the nominal 1,000-foot spacing of hydrants is not adequate for residential fire fighting.

Harry T. White, Chief, Belleville, N. J.: I believe the 1,000-foot spacing of hydrants is adequate for residential fire fighting. I would not be in favor of allowing spacing up to 2,000 feet.

A. J. Bargagni, Chief, Bethesda, Md.: I believe that hydrants should be spaced 500 feet apart in residential areas.

I would not be in favor of increasing the spacing to 2,000 feet.

T. G. Lennon, Chief, Saskatoon, Sask.: I believe the present requirement of 1,000-foot spacing is adequate. In small towns, the spacing should be 800 feet.

In many residential areas the water in

the mains is at a minimum with poor pressures. If the 2,000-foot spacing were allowed, this would increase the length of hose lays, thereby increasing the friction loss in lines.

Romey L. Rudd, Chief, Fort Smith, Ark.; D. E. Littleton, Chief, San Bernardino, Cal.; Gerald Fallon, Chief, East S. Louis, Mo.; John J. Murray, Chief, Rockville Centre, N. Y.; L. L. Geisler, Chief, Johnson City, Tenn.; R. M. Chapman, Acting Chief, Daytona Beach, Fla.; Wilton Jepperson, Chief, Bellingham, Wash.; A. A. Girard, Chief, Pocatello, Ida.; Dean B. Muhlestein, Chief, Provo, Utah.; Marvin K. Evans, Chief, Lynchburg, Va.; Ernest E. Moss, Chief, Eau Claire, Wis.; W. O. Blackwell, Chief, Spartanburg, S. C., Kenneth T. Jackson, Cheyenne, Wyo., Fire Department, believe the nominal 1,000-foot spacing of hydrants is adequate, but they would not be in favor of allowing spacing up to 2,000 feet.

The following replies are in answer to a previous round table discussion on closed vs. open fire apparatus and frequency of accidents and sick leave encountered.

V. A. Parker, Chief, Cumberland, Md.: All apparatus in this department is of the open type. No man rides on running boards or side of equipment. With this type of equipment, we feel we have better visibility. All apparatus are equipped with safety belts of aircraft type.

Barney J. Houston, Chief, Cincinnati, Ohio: The following is based on the period from December 25, 1953 to October 15, 1955:

With 28 pieces of apparatus with enclosed cabs for chauffeur and men, we had ten accidents; with six pieces of apparatus having enclosed cab for chauffeurs and officers, we had one accident. We have had no injuries to personnel in that time.

We have not noticed any difference in sick leaves between men riding open and closed type apparatus.

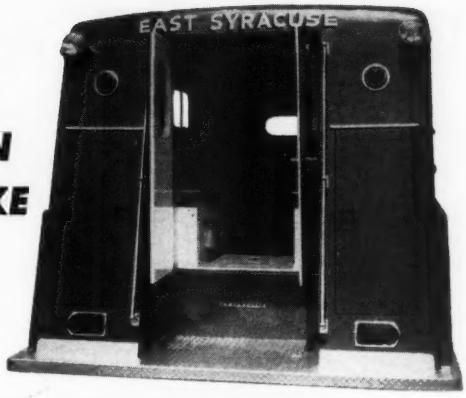
We have 37 pieces of closed apparatus in the department and have had eleven accidents to this type of equipment. We have 24 pieces of open apparatus and have had 12 accidents.

Texas City Settlement

Total settlement of damages to the Texas City Terminal Railway resulting from the disaster of 1947, which killed over 500 persons, has been agreed to by the insurance companies concerned. A payment of $3,250,000 will be made following the settlement which was signed by a United States district judge.

The sum is more than double the award originally granted by a Federal jury in April 1955. The jury decided that the damages suffered by the railway company during the disaster of April 16 and 17, 1947, were more from an explosion than from a fire.

IT'S ATTENTION TO DETAILS LIKE THESE, THAT EXPLAIN WHY



MORE and MORE SHARPSVILLE EMERGENCY CARS

ARE SOLD TODAY!

Sharpsville

STEEL FABRICATORS, Inc.
SHARPSVILLE, PA.

BUILDERS OF SERVICE, CRASH AND LADDER TRUCKS • VOLUME AND HIGH-PRESSURE PUMPERS • SQUAD AND EMERGENCY CARS • STORAGE TANKS

Firefly License Plate Signs

Five distinctive designs "Scotch Lited"

Made on heavy aluminum plate. They are durable, readable, will outwear your car, and will stay reflective. Made for all officers and a host of other standard bases.

See your dealer or write to

PACIFIC REFLEX SIGNS BOX 323, McMINNVILLE, OREGON

BRAXMAR BADGES

Since 1879

Firemen the world over rely on Braxmar for the finest badges money can buy. We offer the widest possible selection in nickel, chrome plate, sterling silver, gold plate, rolled gold and solid gold; all of our badges and insignia are the work of experts with a lifetime of service.

Write for latest catalog and price list.

Dealer inquiries invited

THE C. G. BRAXMAR CO., INC.

216 East 45th Street

New York 17, New York

short cuts and gadgets

More on Color Codes

The volunteer fire departments of St. Mary's County, Md., have adopted a color code for identification of items of equipment belonging to each department. Each department in the county has a personal identifying color and every portable item of equipment is identified with this color code.

FIRE ENGINEERING in the past has reported on the use of color by individual fire companies for marking hose and some appliances, but this is one of the first counties where all volunteer departments have adopted a color identification system for all equipment.

Incidentally, one of the county departments in Lexington Park, Md., formerly identified their gas masks by marking only the case. From experience at a major mutual aid fire the vamps decided to mark the masks as well as the cases.

Adapted from Fire Service Bulletin, University of Maryland

Note: The editors of FIRE ENGINEERING *would like to hear from other departments or counties that have adopted similar methods of marking equipment for identification.*

Oldsters Guide Sidewalk Chiefs

The problem of what to do with crowds of curious spectators at fires has bothered Fire Chief Max Graham and members of the Decatur, Mich., Fire Department, as it has most other fire fighters.

Pondering the problem, the Chief came up with what he believes is an "affable solution."

He's organized the older members of the volunteers into a "traffic squad." They go along on fire calls to direct the sidewalk smoke-eaters to vantage points where they can watch the goings-on without hampering the Brothers—and in safety to themselves.

Remote Control Firehouse Doors

The Flourton, Pa., fire station is equipped with a 24-foot overhead door that weighs one ton. When the volunteers respond to the siren signal they now find that the door is already open upon their arrival.

The door-raising mechanism is connected to the siren circuit by means of an electronic relay. When the signal is sounded, either by the central fire alarm office located in the Springfield Township building two miles away or by the control button in front of the station, an impulse from the siren circuit closes the relay and the door raising motor is operated.

The firemen like the system but have worried over one possibility. In the past, motorists have reported many fires by means of the outside control button. The men are afraid that a passing motorist upon pushing the button will assume that it is a self-service department and take the apparatus out before the firemen arrive.

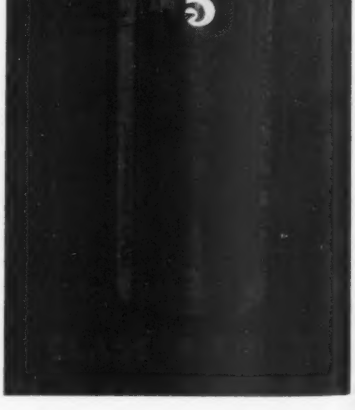
Identifying Extinguisher Locations

The use of fluorescent paints or similar materials as an aid in locating fire extinguishers in buildings and shops, irrespective of lighting conditions, appeals to many industrial chiefs and safety supervisors. Chief A. L. Rathke, San Antonio Fire Department Training Division, suggests the following steps:

First: outline the pattern of the extinguisher on the wall or upright where the extinguisher is to be placed. Allow at least a two-inch margin larger than the extinguisher itself and paint this area with fluorescent material. A second margin one-half inch or wider, bordering the outer edge of the first area is added and painted with a day-glow material so it may be readily seen in lighted areas.

Second: Paint the number of the fire extinguisher above the unit and a corresponding number on the extinguisher. Below the extinguisher the class letter and number should also be shown. These numbers should be three to four inches high of fluorescent materials with a border as recommended for the area behind the extinguisher.

The day-glow and fluorescent paint aids a person in quickly spotting an extinguisher as well as assisting in the selection of the proper type. In addition, some of the fluorescent paints will glow for several hours after having been energized by light and are useful in locations that are not lighted at all times.



Persons in the News

Easterly named Chief

Clay A. Easterly was sworn in as chief of the Martinsville, Va., Fire Department on January 2, 1957. He succeeds Chief James E. Minter who retired due to injuries sustained when he was struck by a car in August 1956.

Chief Easterly is a native of Bristol, Va., and served in that fire department for 10 years. He resigned from the Bristol department in 1940 with the rank of captain to become fire chief of the Volunteer Ordnance Works near Chattanooga, Tenn. He served in this capacity until 1946 when he became Virginia State Fire Instructor. In 1949 he accepted the position of fire marshal of Martinsville and in 1956 became acting chief when Chief Minter was injured. He is a graduate of the University of Tennessee and holds B.Sc. and M.Sc. degrees in industrial science.

Conelrad Chief Named

The Federal Communications Commission has appointed Kenneth W. Miller as U. S. Supervisor of Conelrad. Mr. Miller was formerly engineering assistant to Commissioner Robert T. Barley.

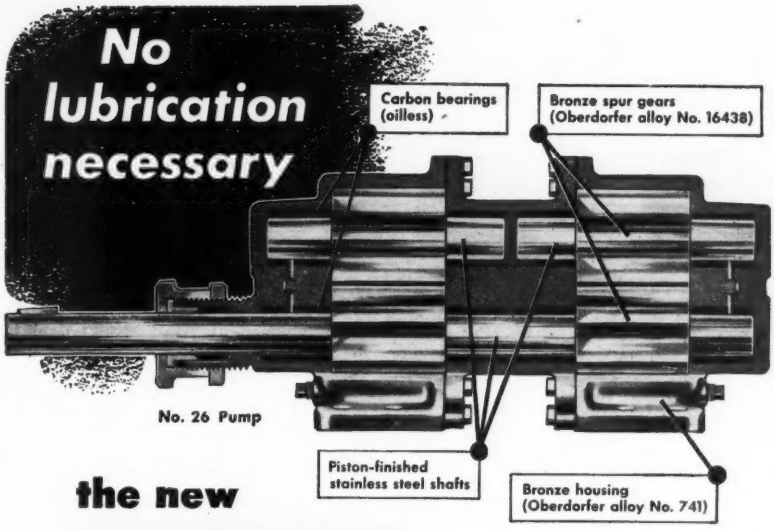
A. J. Mullaney Resigns; Quinn Succeeds Him

Anthony J. Mullaney, one of the most colorful and prominent figures of the nation's fire service, resigned his post as Chicago's fire commissioner on January 18. He was a member of the Chicago Fire Department for 43 years and its chief fire marshal from 1936 to March 1951, when he was named fire commissioner upon the retirement of Michael J. Corrigan. In recent years, he also headed the city's Civil Defense organization.

Commissioner Mullaney rose through the ranks, holding every civil service rank except marine pilot. For several years before Commissioner Corrigan's retirement, he was actually the active leader of the department, as assistant commissioner.

Under his administration the Chicago Fire Department progressed in every fundamental of fire protection. Seldom a day passed without his exploits making the headlines in a municipality known for its high hazards and complicated fire control problems.

Commissioner Mullaney was a familiar figure at conferences of the International Association of Fire Chiefs of which he was an active member, and its regional divisions; also the National Fire Protection Association and other groups serving the fire forces. During World War II, he served with the strategic bombing survey team that went to Europe to study the effects of fire bombing of European cities. His advice and cooperation


No lubrication necessary
Carbon bearings (oilless)
Bronze spur gears (Oberdorfer alloy No. 16438)
No. 26 Pump
Piston-finished stainless steel shafts
Bronze housing (Oberdorfer alloy No. 741)

the new
OBERDORFER
BRONZE BOOSTER PUMPS

These booster pumps with oilless bearings will last 3 to 5 times longer than the old style equipped with plain bronze bearings. As a result of closer machining tolerances, over 20 feet of suction lift may be depended on.

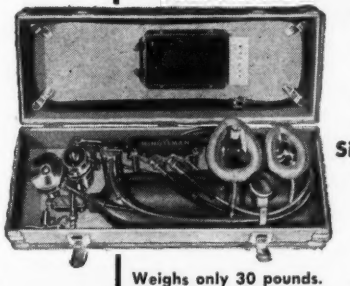
The No. 13 and No. 26 Oberdorfer Pumps are more fool-proof than they have ever been. When you get to a fire you have something you can count on. It isn't necessary to wear pumps out checking them periodically to see if they will work. These pumps are metering pumps in principle and therefore must produce the same volume for every revolution of the drive shaft.

PERFORMANCE DATA—No. 26 and No. 13 PUMPS

Pump No.	Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
26	1600	120	500'—1½"	20'	150
13	1600	120	500'—1½"	20'	75

FIRE PUMP DIVISION, Oberdorfer Foundries, Inc., Syracuse, N. Y.

SAVE LIVES with
STEPHENSON "MINUTEMAN" RESUSCITATOR



Weighs only 30 pounds.

in all respiratory emergencies.
The "Minuteman" does more for the victim in cases of heart attack, smoke suffocation, electric shock, gas poisoning etc.

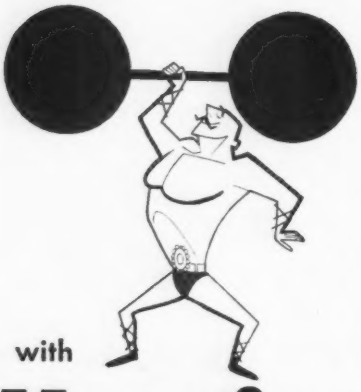
Simple Dependable Safe

Write for FREE demonstration or pamphlet F-462.

STEPHENSON CORPORATION
RED BANK NEW JERSEY

Represented in Canada by Wilson & Cousins, Toronto

Easy Does It!



with

Hoosier

NYLON SALVAGE COVERS

Because they are

50% Lighter

than conventional covers

. . . and only Hoosier Nylon Salvage Covers — made of TUFF-TARP Nylon have these Exclusive Features:

- All seams double lock stitched for extra strength
- All seams double lapped felled for water tightness
- Triple thick 1½" flat hem on all four sides
- Triangular patch reinforcements in each corner
- Spur grommets grip and hold to prevent pulling out

Hoosier TUFF-TARP Nylon covers are your surest protection against water, smoke and chemical damage . . . and they are lighter in weight, much stronger and give you more for your money.

Write for FREE Catalog 57-F1 of Nylon and Canvas Salvage Covers.

Hoosier

TARPAULIN & CANVAS GOODS CO., INC.

Dept. F — 1302 West Washington Street

Indianapolis 6, Ind. — Phone MElrose 2-9451

New York Office: 205 W. 34th St., LOngacre 4-3884

was sought by federal and municipal fire officials far and near. During his career he played a prominent part in national, state and local firemanship training circles and his numerous carefully weighted papers published in FIRE ENGINEERING and elsewhere were widely received.

On February 1, Mayor Daley appointed Robert J. Quinn to succeed Commissioner Mullaney.

Commissioner Quinn joined the Chicago Fire Department 29 years ago. He was advanced to lieutenant in 1937, captain in 1943, battalion chief in 1948, division marshal in 1953, second deputy fire marshal in 1955 and assistant fire commissioner last April.

He has received numerous creditable mentions as a fire fighter, and in 1934, he won the Lambert Tree Medal as the most heroic fireman of that year.

During World War II he was on leave from the department, serving with the U. S. Navy, where he rose to the rank of commander. He was in charge of fire fighting and prevention for the Atlantic Fleet and European naval bases, and later helped reorganize civilian fire fighting units in Germany.

Commissioner Quinn is athletically inclined. In 1944 he was national A. A. U. doubles champion in handball with the late Joe Platak, and from 1936 through 1938 he was Central A. A. U. champion.

Fire Prevention Engineer Decorated

John N. Cardoulis, Northeast Air Command Fire Prevention Engineer, was recently awarded the Exceptional Civilian Service Award, the highest civilian honor bestowed by the United States Air Force.

The award cited Mr. Cardoulis for distinguishing "himself by performance of his assigned duties in a manner far above the normal requirements . . . establishing a fire fighting school," increasing the "effectiveness of fire departments," and "substantial reduction in losses from fire in the command."

At the award presentation, Lieutenant General Glenn O. Barcus stated: "The problem of fire fighting in this area is complicated by a combination of high winds, low temperatures and the lack of water; therefore, fire prevention takes on added importance. The fire prevention program has resulted in the saving of many thousands of dollars in the NEAC area."

Mr. Gardoulis has been invited to present a paper at the Fire Department Instructors Conference in Memphis.

John N. Cardoulis, Northeast Air Command Fire Prevention Engineer, receives the congratulations of Lieutenant General Glenn O. Barcus after being presented with the USAF's Exceptional Civilian Service Award

Chief Leo Barry Retires

Fire Chief Leo R. Barry, for the past 13 years head of the Utica, N. Y., Fire Department, retired December 1, 1956. Chief Barry joined the department in 1928, was promoted to lieutenant in 1935, became a captain in 1938 and assistant chief in 1942. He was named Chief on November 1, 1943.

Chief Barry is a member of the New York State Fire Advisory Board and is the immediate past president of the New York State Fire Chiefs Association. He has accepted a position as executive assistant with the Bureau of Electricity of the New York Board of Fire Underwriters.

Until a civil service examination is held, Deputy Chief Leo Wheeler will serve as acting chief.

Chief Henry McCausland Retires

Henry McCausland has retired as Chief of the Indio, Calif., Fire Department, after serving as a member of that community's fire fighting forces for 30 years, 24 of them as chief.

Cliff Dektar

J. N. Richardson Chief at Beaumont, Tex.

J. Newton Richardson is the new chief of the Beaumont, Tex., Fire Department. He replaces S. D. O'Conor who retired on December 31.

The new chief has been a member of the fire department since 1917. He served as instructor in A. and M. College short courses for the state's fire fighters for many years. He is a graduate of the Los Angeles Fire College.

Our Readers Write Us

On Vamping the Vamps

To the Editor:

Needed—A manual of do's and don'ts for the new fire department!

The new departments are the township, village or industrial fire brigade. The collection of good personnel for them is a real headache.

The chief finds he has to compete with quite a few organizations for a man's time. Our department's meeting and practice dates always conflict with one of the member's other interests. He has now joined a lodge, so he is a deadhead fireman. If fire should hit his home, he won't be around, and if he were, he wouldn't know what to do.

Too many members have the attitude that a fire department is another lodge or club to belong to. So I say, remember, measure your candidates for a year, if necessary. If a vacancy arises, wait until a good man comes along. Keep the deadwood out!

One of our candidates has yet to come across the street to take a look at the fire truck. Yes, we don't want him in!

R. H.

Editor's Note: Brother R. H. has a problem and an idea there. Considering the attendance of volunteers at company meetings, drills and at the fires the country over, it is surprising how low the average is in many departments. Sometimes, one wonders how the vamps manage to do such good work with the material, or lack of material, they have to work with.

We pass on to R. H. a thought expressed by an outstanding volunteer chief. His motto is "Pick the most likely candidates, make it difficult for them to join, put them on a probationary period, then give them plenty to do and make them proud to be a member of their company."

Demolition of Buildings

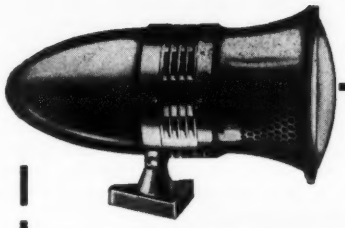
To the Editor:

I should like to offer a suggestion concerning the demolition of large buildings in our cities. The Wanamaker fire prompted this letter.

For years I have noticed that buildings in the process of demolition invariably have fires start in them through carelessness, and then the fire departments have to help the contractor demolish the building at expense to the city.

Years ago Camp Merritt, N. J., was sold to wrecking contractors. The first step in demolition was to remove the hydrants. A fire started and the barracks burned down. I understand that the sprinklers were not in operation at the Wanamaker Building.

Why not require contractors to maintain sprinklers, etc. in good operating condition and in addition, pay the city to maintain a 24-hour watch on the prem-



MODEL 20 SIRENLITE for Emergency Vehicles

Siren sounds a penetrating warning, red light automatically flashes authority. Traffic opens instantly, day or night. FREE ROLLING feature.

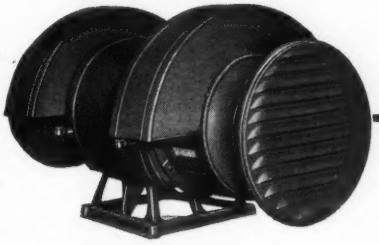
STERLING SIRENS

- HANDSOME
- RUGGED
- RELIABLE

Built by proud craftsmen to the highest standards of precision manufacturing . . . utilizing materials of finest quality . . . Sterling Sirens give year-after-year of unsurpassed dependability and satisfaction.

MODEL 20 SIRENLITE FIRE ALARM SIREN for Volunteer Systems

Quick acceleration, power-plus . . . Model M really gets the boys out in a hurry! Used by championship companies from coast to coast. A dependable, heavy-duty siren built of the finest materials throughout.



Complete line of Siren Equipment • *Bulletin on Request*

THE STERLING SIREN FIRE ALARM CO., INC.
10 BARTLETT ST., ROCHESTER 8, N. Y.

NOW Eastman

2 way DELUGE GUN

with NEW DIRECTIONAL HAND WHEEL CONTROL

One man can operate the gun. It will hold in any position.

EASY TO OPERATE •
STURDY •
SAFE •
MINIMUM FRICTION LOSS •

Send for complete information

SAMUEL EASTMAN CO., INC.
CONCORD, NEW HAMPSHIRE

MEMCO AERIAL LADDER

The aerial apparatus problem of more and more communities throughout the world is being solved by the purchase of a Memco Aerial Ladder. We are confident the Memco Aerial unit will solve the problem in your Department—*too*.

Pictured below is the new stronger, smoother operating, three-section, 65 foot Memco which was introduced at the I.A.F.C. Convention in Miami, where it was enthusiastically received, and the subject of much attention and favorable comment.

MEMCO AERIALS ARE NOT HIGH PRICED—YOUR DEPARTMENT *can* AFFORD ONE. It can be mounted on a truck already in service—or a new commercial chassis —or, your fire truck manufacturer can incorporate it into a new fire truck for you.

for details—write or telephone

MEMCO AERIAL LADDER CO.

1007 N. W. 36th Street
Oklahoma City 18, Oklahoma
Telephone—JAckson 5-6828

ises? Only a paid fireman with the responsibility of sending in an alarm in case of fire would be satisfactory.

Too much time has been lost by city departments in extinguishing fires in buildings being demolished. As there is a national code for construction of buildings, there should also be some control over parties responsible for the demolition of buildings to insure careful and orderly removal.

FIRE ENGINEERING is the medium best fitted for a program aimed in this direction and I think it would be appropriate to have an editorial on this subject in the near future.

Yours for a better fire service,
George C. Ahrens
West Englewood, N. J.

Toledo Weighs Man Shortage

To the Editor:

The Toledo Fire Department, like many cities across the country, has had to cope with the problem of manpower shortage. The number of department personnel is established by ordinance in years past, with a ceiling on manpower but no ceiling on demands made on the chief of department to maintain efficient operation.

Toledo has taken a step forward in alleviating the acute manpower situation which is effective and is easy on the taxpayer and the city budget. It may be the answer for the fire department which has requested a 20 to 25 per cent increase in manpower and in turn has been informed that only sufficient money is available for a 5 or 6 per cent increase. This is how Toledo did it.

Toledo has 21 fire companies, 20 stations and up to December 1, 1956, had one rescue squad manned by four men and one small squad with two men. To bring more manpower to each fire it would have been necessary to add two men per company per shift. Allowing for three platoons this required 126 men and would have been Utopia but was financially impossible.

We divided the city into three areas and added two more large rescue squads to make a total of three, manned by five men on each shift. By responding to all fires in their districts five men are added to the striking power available on a first alarm. This is more than equal to an additional pumper and on a second alarm would account for ten additional men. In fact the five extra men on a first alarm will help cut down the number of second alarms. The squads still make emergency runs (heart cases, etc.) and if necessary, respond directly from the emergency scene to fires, leaving one or two men at the emergency if required.

We achieved this by the addition of only 27 men, plus the men originally assigned to squad duty. The total of 45 men represents about 10 per cent of the total manpower of the Toledo Department.

The squads carry special equipment such as masks, cutting torches, inhalators, resuscitators, hydraulic jacks, stretchers, salvage covers, power saws and other forcible entry tools. The National Board of Underwriters accepts this as a fire fighting unit and gives credit for same.

I am passing this information along to you in the hope that you may see fit to tell other chiefs about it. The solution of our problem may be the answer which other chiefs and city fathers are looking for.

Sincerely,
A. F. Papenhagen
Chief, Division of Fire
Toledo, Ohio

Fire Service Progress

To the Editor:

The article "Fire Service Progress—Prospect and Retrospect" by Fred Shepperd in the October issue of FIRE ENGINEERING is certainly interesting and informative. Whenever I read an article like this, I am always prepared to be highly critical of whatever is said or unsaid. I must admit your article leaves very little room for comment. I would, however, like to point out that not enough credit is given to sprinkler systems in preventing large losses. I also feel that you have been unduly critical of industry while being overly complimentary to the fire service. It is true that some parts of industry have not kept pace with the modern advances in fire protection and have not been able to keep abreast of the increased hazard problem.

Speaking for the fire protection profession, I would say that we certainly have given industry the tools to work with in preventing losses.

Granted, we cannot be proud of the record nor can we derive any satisfaction from the ofttimes failure of industry to use these tools, but the fact remains that there are means for preventing losses if they will just be used.

To me the final answer is a more complete recognition of fire hazards, loss potential and proper means of prevention by industry management. In other words, if the "Boss" wants losses prevented—they will be prevented.

T. A. Ventrone
American Cyanamid Company
Bound Brook, N. J.

The Converted Gasoline Tanker

Dear Sir:

I would like to comment in reference to your article on tankers in the June issue. Although I believe in the use of large water carriers where road and terrain conditions are suitable, I am very much set against the use of gasoline tankers, and in some instances milk tankers, for transporting water to fires.

I will admit that there are exceptions but nearly every used gasoline tanker in service today as a water carrier is not properly constructed with regard to weight distribution and baffles. You may recall that last year a fireman was killed near here when a converted gasoline tanker tipped over after it started to weave back and forth across the road. Also few firemen realize the difference in weight between water and gasoline

which is considerable when you are hauling a thousand or more gallons.

Unless experienced drivers are utilized and slow speed is a habit. I do not like to see gasoline tankers used for water carriers.

Sincerely yours
George V. Blackstone
Lakewood, N. J.

Editor's Note: One thousand gallons of water weighs approximately 4.17 tons. The equivalent amount of gasoline would weigh 3.13 tons, although the weight varies according to the grade of gasoline.

The driving hazards of large water carriers are inherent in all vehicles whether custom-designed or not. Caution is necessary at all times. In the words of the NFPA Committee on Fire Department Equipment, "where large water tanks are required it is essential to provide an adequate chassis and motor. It is seldom practical to use tanks of more than 1,000 gallon capacity on fire fighting apparatus although larger tank units are sometimes used as supplementary or auxiliary equipment. It is very important that water carriers be properly designed because a number of fatal accidents have occurred where overloaded and inadequate baffled water tanks have overturned while responding to fire calls."

With the tendency toward larger tank capacity; increasing weight of trucks; overloading apparatus with manpower (as in some volunteer drills) and the always present danger of speeding, it may be said that the greater the water carrying capacity of any piece of apparatus, the greater the possibility of accident, and the greater the need of extreme care in driving.

First CD Fire Station?

To the Editor:

As a member of the Middletown Auxiliary Fire Department, Wesleyan University in Middletown, Conn., I would like to take issue with the article on "Minneapolis Has Unique CD and Rescue Program" in the March 1956 issue of FIRE ENGINEERING.

On Page 222 it is stated that Minneapolis was the "first city to have its own Civil Defense fire station." This is far from true. Early in the spring of 1951, two years before Minneapolis opened its CD station, a Civil Defense Fire Department was organized as part of the Middletown Fire Department by the students of Wesleyan University. The department was given a temporary truck and a fire station was set up on the campus.

Since its organization in 1951, the department has been in continuous operation and now boasts a "new" fire truck. It has served as a training ground for many students of the university in CD fire and rescue training and has received recognition and praise from many of the fire departments in the surrounding area for aid supplied by the college department when seriously needed.

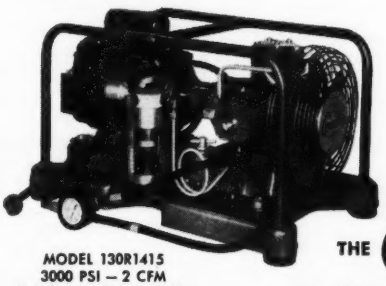
Sincerely,
David W. Epstein
Middletown, Conn.

From one chief to another . . .

CHIEF LUKE J. BERGAN, AUBURN, N. Y., SAYS:

"I would recommend the Cornelius Air Compressor to all Fire Departments using demand masks"

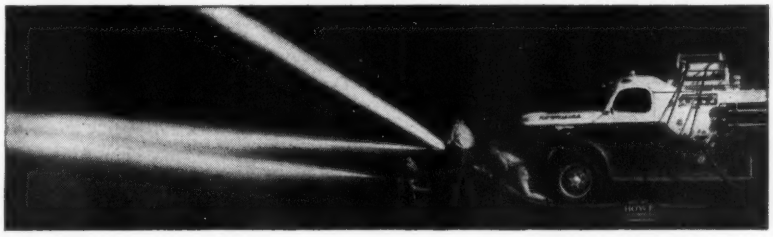
Chief Bergan adds: *"The Cornelius Air Compressor is all that it is advertised and we are very pleased with it. Before purchasing one we had to send away for refills and wait several days for return of the cylinders. Now when our tanks are used, sometimes not entirely empty, we refill them and they are always ready."*



MODEL 130R1415
3000 PSI — 2 CFM
Weight complete — 95 lbs.

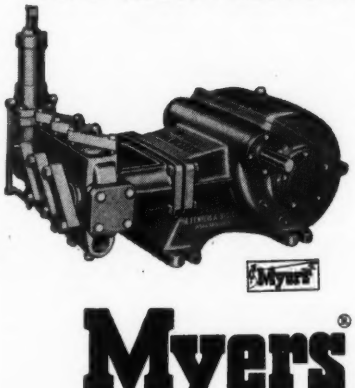
There is no substitute for an abundance of pure, fresh air for prompt, effective fire fighting. Write today for FREE Cornelius portable compressor catalog or call your fire equipment distributor for a demonstration. Find out why Cornelius compressors are recommended by fire chiefs everywhere.

THE Cornelius COMPANY
550 - 39th Avenue N.E. • Minneapolis 21, Minnesota



Three Streams *at one time*

TWO HIGH-PRESSURE *and* ONE HIGH-CAPACITY



"Dual Fire Fighter" trucks, originated by Howe Fire Apparatus Co., mount a Myers Giant Bulldozer pump. It delivers 60 gpm. at a pressure of 800 psi. These high-pressure lines are backed up by a high-volume pump to make the right combination for fighting a wide variety of small fires.

Write today for details and a Myers Fire Pump Catalog

Myers®

PUMPS
Water Systems and Water Softeners

THE F. E. MYERS & BRO. CO., Ashland, Ohio • Kitchener, Ontario

CIRCLE ®

LIGHTS-
First Choice of Fire Departments—

No. 150 High Intensity Flood R-40, 200-300 or 500 Watts.

Here are lights designed for rugged fire service. Completely weather-proof, shock resistant, compact — sealed beam lamps deliver light output greater than lamps many times their size. Light in weight 6 lbs. Measures 11" high x 9" Dia. Base. Complete wired, with twist lock connections.

No. 163 Narrow Beam Spot, 300 Watts—65,000 CP—Par 56 Lamp.

CIRCLE-D FOUR OUTLET

with Pilot Light

PF-51 Provides four 20A outlets from single power line. Guard protected pilot light indicates when power is on, provides work light and signals location of box. Heavy cast aluminum. Size approx. 7" x 9" height. Weight 6 lbs. Twist lock connectors, completely weatherproof.

write for complete data . . . . . .

NATALE MACHINE & TOOL CO.

339 Highway #17 **Carlstadt, N. J.**

Airborne Chemical Attack Addendum

In its January 1957 issue, FIRE ENGINEERING published an article "Airborne Chemical Attack on Brush and Forest Fires Pays Off," which was widely and favorably received. The editors gratefully acknowledged the assistance of the Transland Company and its representatives, John T. Hales and Nick Spaise, in the preparation of the text of that report.

Since its publication, additional information on the subject has been obtained from the same source which further amplifies the published account and at the same time corrects certain omissions and revises some of the original findings.

Research history of air drops

The United States Forest Service first conducted aerial bombing trials in 1936. Study was made at this time of containers, aircraft, auxiliary equipment and personnel factors. The bombing experiments were again conducted in 1946 and 1947 by the Forest Service in cooperation with the Army Air Corps.

Paralleling this study was the development by Canadian foresters of a water bag drop technique which has met with considerable success. Other known studies have also been conducted in Australia.

In 1955, field trials, calibration tests and actual water drops were made on fires at Mendocino National Forest in California. These water drops proved effective in quieting hot spots on large fires and in retarding the spread of small fires in brush and grass.

During 1956, extensive aerial water and chemical drops were made on fires in both national and state forest areas in California. Between August 12, 1956, and September 30, 1956, a total of 23 fires were combatted by aerial tankers with a total of 83,120 gallons of water and 40,580 gallons of chemical retardant being dropped.

The drops were of real help on 14 fires, of good help on four fires, of no help on four and of adverse value on one fire. The latter drop put out a backfire and made control more difficult. Among these fires was the McKinley fire in San Bernardino County (FIRE ENGINEERING, December 1956), where revised data indicates 24,480 gallons of water and 25,400 gallons of chemical retardant were dropped.

The sodium-calcium borate used in these, as well as the later San Bernardino and San Diego drops, is produced under the trade name "Firebrake" and manufactured by the Pacific Coast Borax Company, Division of U. S. Borate and Chemical Corp., Los Angeles, Calif. When properly mixed with water, it will stay in suspension indefinitely. The mixed weight of the solution when used in a proportion of four pounds to one gallon of water is 10.1 pounds per gallon.

Chemical solution non-corrosive

The solution is reported to be non-corrosive to aircraft hoppers, tanks and dumping mechanisms. When the water dries after an aerial drop, the solution becomes very hard and is still fire-resistant when dry. The manufacturer states that there is no evidence that the solution will sterilize the ground for three years, cause soil breakdown or act as a defoliant as reported. At present, research is being conducted to determine the net effect to soil or plant life. □□

Springfield, Mo., Fire Department Has Big New Tanker

The Springfield, Mo., Fire Department boasts a new "giant" tank wagon built to its own specifications. The vehicle has a 1600-gallon tank mounted on a White chassis and carries a 300 gpm portable pump and a 650-watt generator in compartment over the rear step. A water level gauge and two 2½-inch outlets are provided.

Chief Ray E. Fraker says the radio-equipped vehicle is highly maneuverable, has good visibility and is very practical.

New Disney Safety Film Available

Walt Disney Productions has released its new cartoon "I'm No Fool With Fire." This highly entertaining 16mm sound cartoon in Technicolor has won the highest honors in the 1956 contest conducted by the National Committee on Films for Safety.

The film features Jiminy Cricket, one of Disney's most popular personalities, as the master of ceremonies and teacher. In a running commentary, he tells the history of fire and how man made use of it in the strides toward civilization. He explains the chemistry of fire, the everyday dangers associated with it, and how to prevent fires in the home.

Mr. Disney produced the film for youngsters in the hope that it would help children to understand the dangers of fire and thereby save lives and property. Throughout the film excellent use is made of animation, color, humor and music.

Copies of the film are available on free loan from the Bureau of Communication Research, Inc., 13 East 37th St., New York 14, N. Y.

HARTFORD

Continued from page 131

personnel as the fight wore on, fought the fire from all angles for more than four hours without gaining mastery of it. By 11:00 a.m. the entire Cathedral was a raging furnace, flames covering the roof of the massive structure which measured 90 feet from grade to ridge of roof, with the two towers rising high above grade. Before noon, when the Cathedral was considered a total loss, flames were shooting from its once-beautiful stained glass windows, including the huge circular front window 35 feet in diameter. Hot embers were propelled across Farmington Avenue to the grounds of the Aetna Life Insurance Company.

Designed for destruction

The imposing Cathedral was typical of so many of its kind which have fallen prey to fire. Its massive masonry and slate exterior belied its interior combustible construction.

The edifice was dedicated and consecrated in 1892 after 16 years of construction work. Of early Gothic design, it was built of brownstone walls with wooden roof joists and roof members. All partitions were of wood construction. There were no fire stops in the building and large vertical and horizontal open shafts extended throughout the structure. It was marked by twin masonry towers that extended 240 feet above ground. One of these contained the chimes.

The upper and lower levels each seated 2,000 people while the choir gallery provided for 80 singers. A carved oak bishop's throne was located in the chancel. Altogether, there were 72 stained glass windows imported from abroad, in

For VALUE . . .

Specify HALE

Why do users of Hale Fire Pumps specify "Hale Pump" when they buy new apparatus?

Because these men have learned through practical experience HALE VALUE in terms of:

• **Dependability** • **Flexible Performance** • **Efficiency**

For 42 years Hale-equipped Fire Pumpers have upheld a high standard of dependability . . . a dependability that has won the respect of users all over the world. **Hale Fire Pumps are sold only through Manufacturers of Quality Apparatus.**

FEATURES

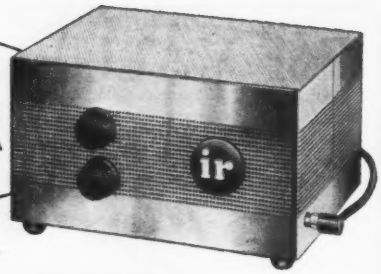
- Completely Modern
- Reliable
- Rugged
- Compact
- Conservatively Rated

Write today for NEW FOLDERS on Hale Fire Pumps . . . built in all standard capacities.

HALE
FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

DON'T SPECULATE-
...STEP UP
YOUR EFFICIENCY!
The accelerated tempo of modern times demands modern techniques plus stepped-up efficiency. Fire departments everywhere find the Super Vacuum Smoke Ejector provides the extra margin of efficiency necessary in modern day fire fighting. New and revolutionary in design, Super Vacuum will outperform other fans twice its size... gives the positive, controlled ventilation essential to the prompt, efficient control of fires.
CONTROL VENTILATION
...CONTROL FIRES!
The heart of the SUPER VACUUM Smoke Ejector is the patented propeller. Conventional fans produce a chopping, recirculating action. In contrast, the SUPER VACUUM propeller is a perfect spiral air screw which creates a vacuum... suction is created over the entire face of the propeller and the air or smoke is discharged in a high velocity spiral. There are no dead spots.
THE HEART OF THE SUPER VACUUM
WRITE FOR ADDITIONAL INFORMATION OR CONTACT YOUR LOCAL FIRE EQUIPMENT DEALER
MANUFACTURED BY
Super Vacuum MANUFACTURING CO. INC.
319½ E. 17th Ave., Denver 3, Colorado

the VOLUNTEER



A POWERFUL NEW

COMMUNICATION RECEIVER

FOR YOUR 2-WAY RADIO CALLS

FM VHF

For the first time, a truly high performance receiver is available at a price low enough for individual members of public security organizations to keep informed while on or off duty. Fire and police departments, civil defense organizations and all other operators of 2-way radios are improving their service to the community with the use of VOLUNTEERS in members' cars, homes or offices.

VOLUNTEER Receivers and PAK-FONE 2-Way Portable Radios are sold by your 2-Way radio service organization. Phone or write for complete details. Phone: AUstin 7-8888.

FEATURES

CAR AND HOME / OFFICE MODELS
15 TUBES (AC / 150)
TRANSISTORIZED (MOBILE)
CRYSTAL CONTROLLED
EXTREME FRINGE RECEPTION
COMPACT—EASILY INSTALLED
FCDA APPROVED
25 to 55 MC — 140 to 175 MC
ONLY $99.00 (less crystal)

INDUSTRIAL ir RADIO CORP.
428 N. PARKSIDE • CHICAGO, ILL.

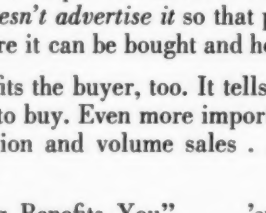
MOUSETRAP,
STEAM TRAP,
WATER TRAP

. . . it makes no difference

. . . the world *won't* beat a path to the door of the man who builds a better one *and then doesn't advertise it* so that people will know about his product, know where it can be bought and how much it costs.

Advertising benefits the buyer, too. It tells you the product story, makes it easy for you to buy. Even more important to you, advertising leads to mass production and volume sales . . . which means lower costs and lower prices.

Yes, "Advertising Benefits You" . . . 'specially businesspaper advertising.



FIRE ENGINEERING

Deputy Chief James P. McSweegan who helped discover the fire, leaving the east side basement church entrance
—Photo courtesy Hartford Fire Department

addition to statuary and paintings, and a 40-year-old, 65-stop organ valued at $100,000.

The rotunda over the altar formed a large open void that reached to the roof. Under the eaves was a large attic space measuring 200 feet by 60 feet which in places reached a height of 15 feet. The two large wings at right angles to the approximate center of the church, provided additional concealed space for undetected fire travel.

The vast Cathedral underwent extensive restoration in the 1930's when anxiety developed over the settling of the foundation. The work, which included a new foundation and completely new electric service, took over two years and was completed in 1939.

Fire spreads through voids

Fire Chief Henry Thomas, nationally known and quoted as an exponent of fire safe construction and other fire prevention measures, gave FIRE ENGINEERING's correspondent this description of the course of the fire and the reasons why it mushroomed so quickly.

"The blaze," said Chief Thomas, "originated in an area beneath and to the rear of the main altar of the Cathedral (the exact place of its origin, and the cause was not determined at the time of his remarks). Fire burned in the space between the main floor and the ceiling of the basement church, which has a capacity of 2,000. There were no fire stops in the structure. It was of old construction and contained a great many large, open shafts, both vertical and horizontal.

"Through these openings, flames burned inside partitions toward the sacristy and upwards to a third floor storeroom. During the early hours fire fighters tried to get at and control the partition fire; no flames could be seen outside the Cathedral. Smoke conditions were severe. However, flames eventually reached the large rotunda above the main altar, where

A Message from Lewis Vincent

Lewis A. Vincent, General Manager of the National Board of Fire Underwriters, in a special message to FIRE ENGINEERING, strongly urges that all churches study the physical plant and operation of their church to prevent potential fires.

Although the average person would probably assume that a church is relatively safe from fire because of the absence of any manufacturing process, there have, in recent years, been a great number of large church fires. The type of construction with high ceilings and open areas, promotes the rapid spread of fire and creates extinguishment problems for the fire department. The maintenance of the heating and electrical systems is a problem complicated by the fact that the systems are expected to operate under very heavy loads for short periods. Fire and damage losses from lightning are high because the steeple is often the tallest structure in the vicinity and may be inadequately protected. Arsonists frequently attack churches because of accessibility, infrequent occupancy and their own mental quirks. Discovery of a fire is delayed because of lack of a complete detection system and the normally unoccupied condition. The fire department is hampered by these factors.

is located a large open attic-like area some 15-feet high in places.

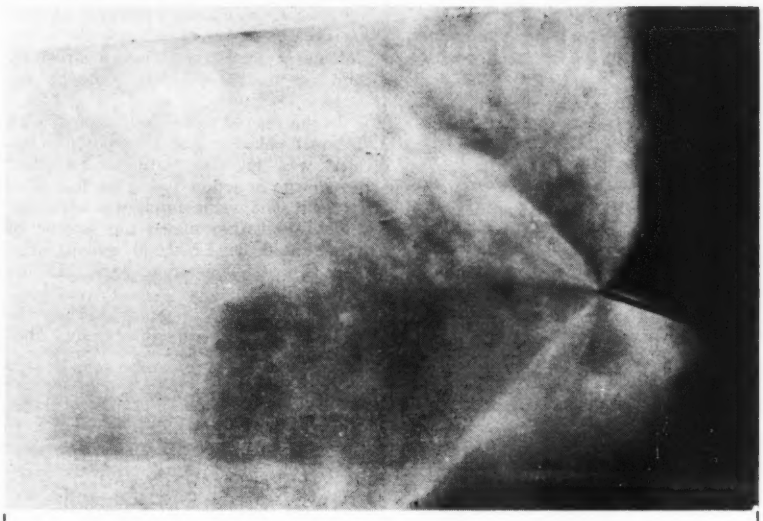
"When the fire reached that area it burned long enough to break through the ceiling and out through the room. Once the fire had ventilated itself, it flashed throughout the roof from end to end and from side to side, totally enveloping the structure."

Firemen took punishment

Although winds were not as strong as at the St. Patrick's fire, the temperature was about the same, with snow flurries. In the early stages, lines were taken into the church itself, including the basement, and up aerial ladders to the roof of the sacristy. Men climbed extension ladders also, in an effort to reach the spreading fire through windows. Smoke conditions were so bad above the sacristy that men were overcome although they were working in the open air.

During operations, a hot air explosion under the roof flashed through part of the structure knocking down several firemen who were manning hose lines in the basement. At this point Chief Thomas immediately ordered his men to evacuate the area. His action saved possible loss of life of firemen as more debris fell in the

A FOG CURTAIN!



Above is an actual photo of fog pattern of the JAVELIN NOZZLE so effective for fighting aircraft, auto, partition wall, coal pile, cotton bale, and cellar type fires wherever forceful entry is required. Every department needs one! Order today or write for complete details:

JAVELIN TOOL AND SUPPLY CO.

918 G. DANIEL BALDWIN BUILDING, ERIE, PA.

DEALERS—Valuable sales territories open—write for details!

You Can't Beat GLOBE For Cold Weather!...

Ever since 1901, there have been firemen's suits less protective, yet more expensive than Globe garments. But on the job, in action, your safety counts.

GLOBE gives you 3 suits in 1—

. . . each designed to do a specific job. *One,* the outside garment, is tough duck, made to take the rough usage fire fighting demands. It protects garment number *two,* the water-proof interlining made with 100% DuPont Neoprene. Garment *three* is the lining, light for warm climates, heavy for cold sections. The GLOBE SUIT combines these three garments into ONE PERFECTLY BALANCED SUIT! See it at your dealers, or write for our latest catalog.

STANDARD SINCE 1901

GLOBE SUITS

GLOBE MANUFACTURING CO. PITTSFIELD, N.H.

Morning Pride
All weather
DUCK
VERSATILE
BLACK or WHITE
No. 60
Free Literature Available

See Your Local Dealer or Write
MORNING PRIDE MFG. CO.
1986 HOME AVE., DAYTON 7, OHIO

DOES YOUR FIRE TRUCK TANK SHOW RUST?
ARE YOUR FIRE PUMP GATES AND VALVES HARD TO OPEN?
Dakota
TANK SAVER
WILL SOLVE YOUR FIRE TRUCK MAINTENANCE PROBLEMS

* Positively prevents rust in pump and booster tank.
* Lubricates valves and gates—prevents sticking.
* Will not affect wet water or foam, will not damage fire hose or fabrics.
* Just pour in booster tank and circulate.
* Tested and approved by hundreds of fire departments.
One-half Gallon will treat 500-gal. tank, pump, gates
Single gallons $4.00 Case of four gallons $15.00
F.O.B. Sioux Falls, S. Dak.
Order direct or from your fire equipment dealer.
Fire Equip. Dealers—territories open for distribution
DAKOTA CHEMICAL COMPANY
West 12th St., Dept G., Sioux Falls, S. D.

same spot a few minutes later. No further interior fire fighting was possible and efforts thenceforth were centered on protecting exposures and reducing the heavy volume of fire within the vast structure, utilizing master streams from the exterior.

In this operation, five ladder pipes with 1½-inch nozzles, and four portable deluge sets, together with several hand lines, were in action during the four-hour struggle. The water supply was adequate. Chief Thomas estimated the amount of water used at 1,500,000 gallons. Engaged in the operation were 228 fire fighters.

Ten firemen were injured during the struggle, none of them seriously. Altogether, 1,750 feet of 1½-inch hose, 13,100 feet of 2½-inch and 4,400 feet of 3-inch hose were employed during the action. No bursts were reported, but a total of 3,000 feet of 2½-inch and 1½-inch hose and a quantity of miscellaneous equipment had to be abandoned when the backdraft forced firemen to evacuate. Much of this equipment was later salvaged.

No official recall was sounded but the first companies to be dismissed took up at 2:30 p.m. Firemen maintained watch service for several days to quell outbreaks in the ruins.

Preliminary assays indicate that the once imposing Cathedral is a total loss except for the foundation. □□

BOSTON

Continued from page 131

These conclusions were reached:

1. Immediate entrance be gained, utilizing battering rams without hesitation, if required.

2. Immediate ventilation be commenced at the most logical place—usually the highest point, and as nearly as possible directly over the fire area to draw off the heat and smoke and thus facilitate prompt access to the fire area.

3. Penetration by personnel into the fire area be attempted simultaneously with the ventilation procedure.

4. Additional ventilation to relieve heat accumulation be gained by opening up all necessary windows as soon as possible after initial ventilation has started.

5. Every effort should be made to preserve the stained glass church windows. However, if their removal will materially facilitate extinguishment this should be done without hesitation. There is no purpose in saving windows at the cost of the entire edifice.

6. The possibility of getting above the fire should be explored by searching for entrances at roof level and belfry openings. The roof scuttles on each side of the pitched roof aid immeasurably in this respect.

7. Efforts should be made to prevent the fire from extending to concealed space between the underside of the roof and the ceiling; the positioning of companies at this point to this end should be considered basic.

8. Full utilization of exterior ladders should be made for passage of hose to upper levels.

9. Aluminum ground ladders were far superior to the conventional wooden ladders for working inside the building and facilitated the necessary forcible entry and overhauling duty. □□

Another Boston Church Fire

The fifth church fire in greater Boston within a month caused $150,000 damage to the century-old First Congregational Church on January 11. Boston firemen under Chief Leo C. Driscoll fought blaze from all vantage points

Obituaries

Frederic S. Mabbatt II

Frederic S. Mabbatt II, a veteran sales representative of National Foam System, Inc., died suddenly on January 8 at his home in Sugartown, Pa. He was 61.

Mr. Mabbatt has been associated with National Foam System, Inc., for 27 years. He managed the New York office of that company for 22 years, coming to West Chester in 1951 to manage sales in the Philadelphia territory.

He is survived by his mother, his wife, a son and a daughter.

Fred B. Alger

Mr. Fred B. Alger, 62, representative of the Seagrave Corporation in the New England States for more than 20 years died on January 7, 1957. Mr. Alger lived in Middleboro, Mass., and was well known to New England fire chiefs. He will be succeeded by his son-in-law, Mr. Howard Steff.

Maurice J. Healy

Maurice J. Healy, sales manager of Ardmore Products, died December 30th in Oak Park Hospital, Oak Park, Ill., after a short illness.

Mr. Healy was widely known to fire chiefs and equipment manufacturers.

Earl C. Watson

Earl C. Watson, Chicago district manager for American LaFrance Corporation for the past 20 years, died at his home in Chicago on December 29.

Mr. Watson had been associated with the fire service for over 50 years, first as a member of the Battle Creek, Mich., Fire Department. In 1913 he joined the sales department of American LaFrance. In 1937 he was promoted to district manager.

He was widely known in fire circles and was a member of several fire service associations.

Mr. Watson is survived by his widow and two sons.

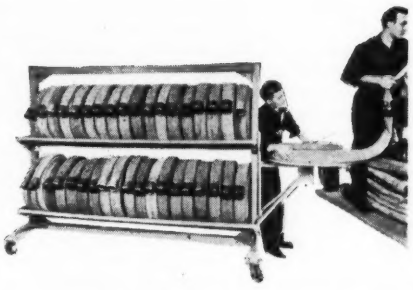
Clarence C. Gilroy

Clarence C. Gilroy, a special agent in the arson department of the National Board of Fire Underwriters since 1944, died January 19 after a long illness. He was 62 years of age.

Albert H. Pike

Albert H. Pike, 71, principal supervisor in the Arson Department of the National Board of Fire Underwriters died on January 11, 1957. Mr. Pike had been associated with the National Board since 1929. At one time he was assistant chief of the Bureau of Investigation, U. S. Department of Justice.

Porto-RAK HOSE STORAGE AND LOADING UNIT



SAVES SPACE
•
SAVES TIME
•
SAVES WORK
•
KEEPS HOSE AND COUPLINGS OFF THE FLOOR
•
ELIMINATES CARELESS ABUSE

Porto-Rak is the modern way to handle, store and load hose.

PORTO-RAK saves valuable space. It holds 1800 feet of 2½" hose and proportionally more of 1½" hose in an 8½ foot space (loading table detached). Easy, convenient to use. Roll it right up to the truck for complete hose reload—out of the way when not in use. Equipped with locking fiber-wheeled casters.

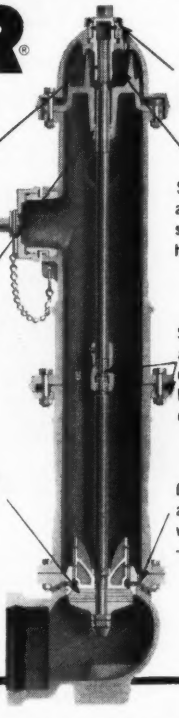
WRITE FOR FOLDER

THE CIRCUL-AIR CORPORATION 575 EAST MILWAUKEE DETROIT 2, MICHIGAN

MUELLER®
FIRE HYDRANTS

AWWA IMPROVED TYPE

for perpetual readiness!



Bronze weather cap assures easy operation in any weather.

Dry top design keeps threads and bearing surfaces away from moisture.

Self-oiling reservoir automatically lubricates stem threads when hydrant is operated.

"O" ring seals around stem eliminate maintenance of stuffing boxes and glands.

Safety stem coupling and flange prevent damage to stem and barrel by traffic collision.

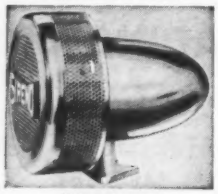
Compression-type main valve closes with pressure – assures positive shut-offs.

Double drain valves automatically flushed when valve is opened – a positive drain.

See your Mueller Representative or write direct for complete information

MUELLER CO. CHATTANOOGA, TENN.
Factories at: Decatur, Chattanooga, Los Angeles; In Canada: Mueller, Limited, Sarnia, Ontario
Since 1857

SIRENO
THE LEADER SINCE 1908
YOU SAW THEM AT THE SHOW
NOW TRY THEM.



NUMBER ED12
THE BIGGEST
MOST POWERFUL
VEHICLE SIREN MADE

NEW—"REVOLVO-RAY"
WATERTIGHT—NEW DESIGN
AND CONSTRUCTION FOR
GREATER EFFECTIVENESS
WRITE DEPT. 27 FOR CATALOG
THE SIRENO CO., INC.
214 WILLIAM ST. N. Y. 38 • N. Y.

RADIO RECEIVERS
especially designed
for FIREMEN
VOLUNTEERS
FIRE-BUFFS
(7" x 10" x 5½")

"FIRE-PAL" 153.7-155 mc.
"FIRE-REPORTER" 30-50 mc.
Specify desired frequency

- DRIFT-FREE
- Automatic squelch
- 7 tubes plus rectifier
- 110-120 volts 30 watts
- Whip antenna

Money back guarantee
37.50 post paid

HARRON
42-10 220TH ST.
BAYSIDE 61, N.Y. LABS

New Haven Installs Emergency Phone System

The first telephone fire alarm and emergency reporting system in New England went into effect at New Haven, Conn., on January 5th. Telephones, enclosed in red metal boxes at 376 locations throughout that city, replaced the telegraph fire alarm system. Also replaced by the new setup were the police call boxes and signal lights.

Anyone may now report a fire or other emergency by telephoning directly to a central dispatching office at city hall from any of the new boxes. The dispatcher channels the information to the proper place.

The new system has been installed by the Southern New England Telephone Company on a rental basis and the company will maintain the service.

Mayor Richard C. Lee said the saving to the city of New Haven would be more than $43,000 a year. He said that by reporting emergencies by telephone, more information can be obtained of their nature so that proper equipment can be dispatched to the scene.

Tom Magner

INTEGRATION

Continued from page 133

conversation with me, he was not able to cope with both jobs. The fire service was sadly neglected. The results—separate and positive fire and police departments.

Monterey Park, Calif.: A community had separate fire and police departments. Because of political encroachment, inadequate pay, low morale, both departments reached a very low ebb. Combination of the departments was tried. A retired fire chief took command as the public safety officer. The results—further discouragement, further lowering of morale, inadequate service to the people to the extent that the city council separated the two services to obtain adequate protection for their city.

Buena Park, Calif.: Community is a growing and thriving one. An industrious city manager determined to combine the fire and police departments. Such was done. The results—lowering of morale, degrading of the service to such an extent that the people of the city took it upon themselves on November 6, 1956, by a vote of two to one, to end this combination. They determined that they wanted a proper and adequate fire department and in addition, a proper and adequate police department.

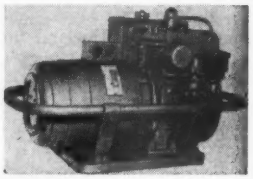
Sureiy, the examples I have presented to you prove beyond any reason that the combining of fire and police departments will only result in a two-headed monster and improper protection for the community.

Fire chiefs have an obligation

I would like to point out to all fire chiefs that it is incumbent upon each and every one of them to provide a highly capable and efficient fire department for their communities. Anything less will be

Right On The Spot a quick, dependable power source for operating electrical equipment used by modern fire departments. Katolight Portable Power Plants furnish fast auxiliary power for lights, pumps, resuscitators, other emergency equipment. Available either trailer- or bracket-mounted, capacities from 500 to 50,000 Watts and larger, with popular-make engines that can be serviced anywhere.

NEW FOLDER
Write us today for complete information and prices concerning your requirements



Katolight CORPORATION
Box 891-99 Mankato, Minnesota

Specify ACME
. . . the Gas Mask
that Gives You
MAXIMUM USABLE
VISION

Tests prove that ACME gas masks lead the field in giving you clear, undistorted vision — up, down, and to either side. Along with maximum usable vision, you get greater comfort, less fogging, minimum breathing resistance, acceptable conversation transmission —all at down-to-earth prices.

Write for Bulletin No. 501 on gas masks and No. 562 on results of vision tests.

ACME PROTECTION
EQUIPMENT COMPANY
1215 Kalamazoo St.,
South Haven, Mich.

McINTIRE GATE VALVES

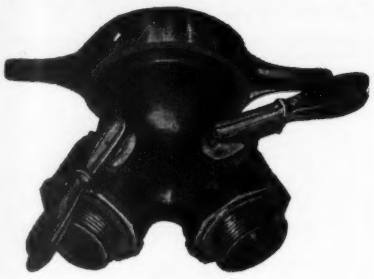


Fig. 164AN

4½" swivel female x two 2½" male Gated Siamese. Quick opening, ¼ turn valves.

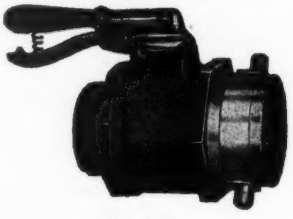


Fig. 163

Made either Right Hand or Left Hand 2½" male x female, gate valve.

F. N. McINTIRE BRASS WORKS

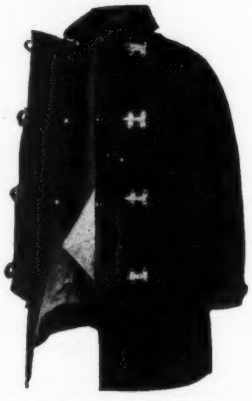
377 PUTNAM AVE., CAMBRIDGE 39, MASS.

1837 - - - - - - - - 1957

BODY-GUARD

BUNKER SUITS

FOR COMFORT & PROTECTION



WE ARE DISTRIBUTORS FOR

SIREN BOOTS

We have been supplying **FIREMEN'S CLOTHING** for over 25 years.

Any fireman can have a catalog by writing—

BODY - GUARD MANUFACTURING CO.

ST. JOSEPH - - - - MISSOURI

a disservice to the population. We cannot sit back and think that we have reached the pinnacle of success in our departments. We must be ever alert to all progress—ever alert to any advancement which will increase our efficiency. We must not only provide adequate and sound equipment but we must hire efficient personnel. Our standards on the hiring of personnel must be kept high if we are to meet our responsibilities. Advanced training in technical knowledge must be provided for our men. Teamwork must be developed in the handling of equipment and in the operation at fires. Fire inspections must be stepped up to the highest possible degree.

No longer is there any reason for the firemen to stay in the fire stations waiting for the next fire. With our two-way communications, every effort should be made to prevent fires.

Every building within our jurisdiction should be visited by firemen on fire inspection tours at regular intervals. We are responsible for the lives of our citizens — their property — their homes — everything that is dear to them. We must take every possible step to protect them. Only the very best fire department can provide this protection. If we have the kind of fire departments we should have —if we are giving our people the protection they rightly deserve, we will have the respect of everyone in our communities. We will have nothing to worry about from schisms or schemes or theoretical dreams. □□

Party-Line Phone Bill to Be Introduced in Legislature

The Connecticut Fire Chiefs' Association which will seek passage of a bill at the next session of the State Legislature to deter persons from refusing to surrender a telephone line to someone reporting a fire, will have the backing of George C. Hanna, Chief of the Danbury Fire Department.

Chief Hanna reported recently that two persons refused to surrender a telephone line in the south end of Danbury, delaying for some time the report of a fire. The blaze caused an estimated $1,000 damage to a bedroom, attic and roof by the time firemen arrived.

Chief Hanna said the fire was in the home of Antonio Decensi. Mr. Decensi's son-in-law, William Oliver, discovered smoke pouring from the Decensi home. He tried to telephone Fire Headquarters but found the line was busy. His efforts to persuade the people to get off the line were rebuffed, forcing Mr. Oliver to go to a neighbor's home to telephone for firemen. *Tom Magner*

Peru Highway Holocaust

A truck loaded with matches crashed head-on with another motor van last November 15th on the Pan American Highway, 160 miles north of Lima, Peru. Six persons were killed and two seriously burned in the wreck and ensuing fire.

BADGES

by

Everson-Ross

Highest quality, beautifully designed, prompt service . . . Write for folder.

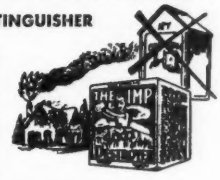
EVERSON-ROSS

88 Chambers Street, New York 7, N. Y.

Chief - - -

CAN YOU PUT OUT A CHIMNEY FIRE For 65¢? —YOU CAN WITH IMP

CHIMNEY FIRE EXTINGUISHER



Save rushing to chimney fires—avoid slippery roofs by using IMP Chimney Fire Extinguisher. Just throw a 65¢ package "as is" on the hottest part of the fire in the stove, furnace or fireplace. The chimney fire will be out in jigtime without water or chemical damage. Recommended by many chiefs who carry IMP in their cars. ALSO —LIQUID IMP for *oil fired units*, is as much a fire preventative as pkg. IMP. Saves oil, money, increases heat, prevents sludge, reduces carbon deposits and is safe. You know what a fire hazard sludge is. Use LIQUID IMP in your own burners. 3½ oz. enough for 90 gals. kerosene or 55 gals. No. 2 fuel oil; 16 oz. enough for 5 times above quanity; 1 gal. enough for 1600 gals. #2 fuel.

A fire prevented is worth more than a dozen extinguished!

USE THIS COUPON FOR YOUR ORDER

F. C. FOARD & CO., Box 481, Bridgeport 1. Conn.

Please send....doz. packages of IMP @ $7.80 per doz.
and/or.....doz. 3½ oz. Liquid IMP @ $9.00 per doz.
.....doz. pint Liquid IMP @ $27.00 per doz.
.....quarts Liquid IMP @ $4.10 per qt.
.....gallons Liquid IMP @ $14.00 per gal.

I will honor your bill f.o.b. Bridgeport.

NAME.....

ADDRESS.....

CITY..... STATE.....

FIRE EQUIPMENT DISTRIBUTORS ATTENTION! Add package and Liquid IMP to your line. Write TODAY for special distributor Plan.

CLASSIFIED ADVERTISEMENTS

Rate $10 per column inch, less 10% for three or more consecutive insertions. Closing date for copy, 25th of month preceding date of issue. Address FIRE ENGINEERING, 305 East 45th Street, New York 17, N. Y.

FIRE HOSE SALESMEN

Within six months our Company will launch a sales campaign surrounding an entirely new product for fire stream transmission. We are long established as a leading manufacturer of top quality fire hose and our new product has been developed from many years experience. Our authorized representatives' territories are exclusive but we may have an opening in your area. Your inquiry and qualifications are invited. Your reply will be kept in strictest confidence.

Box 325
FIRE ENGINEERING
305 East 45th Street
New York 17, N. Y.

FOR SALE

K-5 International equipped with John Bean Royal 55 Hi-Pressure, 2 reels, 500 gal. booster tank, ladders, axes, extinguishers, pike-pole, 300 feet new Hi-pressure hose with fog nozzles, lights, siren, and Beacon Ray. Ideal for Rural Fire Fighting. Has low mileage, mechanically perfect. For quick sale priced at $2950. Must make room for new equipment.

JOYWOOD-EWING FIRE DEPT., INC.
2501 Dickerson Rd.
Nashville, Tenn.

SURPLUS EQUIPMENT

4 Gallon hand Pumps with 10 feet Hose..	$ 9.50
2½ in. Bronze, Spray, Solid stream, with Shut off Nozzles, N.S.T.	25.00
4½ x 2½ Hydrant and Suction Connection M. Iron. N.S.T.	6.00
Asbestos Mittens	5.00
2½ Expansion rings. Doz.	6.00

Other items write for list.

FRANK J. SHORTNER
EDGAR, WIS.

FOR SALE

SIRO-DRIFT SIRENS
available for immediate delivery. Complete stock of 6 and 12 volt sirens.

BARGAINS in used sirens and Beacon Ray Lights. 6 and 12 volts available. For complete information.

WRITE: EDWIN R. JENNY
2024 Heitman St.
Fort Myers, Fla.

FIRE APPARATUS FOR SALE

American LaFrance 1930 Quad., 250 HP 12-cyl. engine nearly new, 1000 GPM rotary pump which recently passed Underwriters test, booster tank and booster hose, full complement wood ladders, hooks, poles, bars, axes, hydrant adapters, hard & soft suction hose, nozzles, hand lights, siren, extinguishers & foamite generator. $2000.00 or best offer.

Contact
CAPT. THOS BREWER
RESCUE HOSE CO.,
WEST STREET
ANNAPOLIS, MARYLAND

FOR SALE

Seven, 1941 & 1942 Seagrave pumpers, all 750 G.P.M. 2 stage, 290 gal. Booster tanks, 900 x 20 tires. Army and Navy surplus. Priced at $2000.00 and up.

W. ACKERLUND
2527 Oak St.
River Grove, Illinois Phone Gladstone—3-2284

! FIRE HOSE SALE !

1½"x50' SJ CRL fire hose, unused but soiled	$. 26 ft. cpld.
2½"x50' SJ CRL fire hose, unused but soiled	$. 40 ft. cpld.

UNUSED & CLEAN FACTORY PACKED GUARANTEED PERFECT

1½"x50' SJ CRL fire hose	$. 40 ft. cpld.
2½"x10' hard suction hose	14.50 lg. cpld.
¾" or 1"x50' Booster hose	.30 ft. cpld.
4"x16' DJ soft suction hose, w/4½". cplgs. male & long handle female	16.50 lg. cpld.
Mechanical foam playpipes, Phomairs, less pickup tube (Worth $45.00) ..	8.00 ea.
Mechanical foam playpipes, Phomairs, complete with pickup tube (Worth $55.00). Our price only	15.00 ea.
2½" Siamese connections, plain, 1 male and 2 female, NST	4.75 ea.
2½" Brass double female connections, NST	5.95 ea.
1½"x12" Plain hose nozzles, brass, IPT	1.25 ea.
2½"x15" Plain hose nozzles, brass, NST	4.25 ea.
1½" Fog nozzles, brass 3 position, leading brands, NST or IPT	29.50 ea.

IMMEDIATE DELIVERY
ANY THREAD COUPLING CAN BE SUPPLIED ON HOSE LISTED

TOWSON HOSE & RUBBER CO.
104 WEST JOPPA ROAD
BALTIMORE 4, MD.
Phone VAlley 3-1672

A NEW PRODUCT

Wanted . . . Distributors to Catalogue the J. E. High Hose Clamp. 40 tools in one with a rope to handle fire hose clamps on window sills and ladders. Safety device and rescue work. Weight 12½ lbs. Simple to operate, been demonstrated at the Fire Chiefs International Convention.

Write: Box 320
FIRE ENGINEERING
305 East 45th St.
New York 17, New York

FOR SALE

1929 Seagrave City Service Double Bank Ladder Truck, completely equipped, 365 ft. of ladders, 75 G.P.M. booster pump, 100 gal. tank, apparatus in good condition, inspection invited, for details write to

FLEET WING H. & L. CO. #3
Frank L. Kramer, Sec'y
Lambertville, N. J.

2½" FIRE HOSE SALE

SPECIAL OFFER

Unused, clean, factory packed 2½"x50' SJ CRL fire hose, leading brands, guaranteed perfect, tested to 300 lbs.

ONLY $.55 Ft. cpld.

TOWSON HOSE & RUBBER CO.
104 WEST JOPPA ROAD
BALTIMORE 4, MD.
Phone VAlley 3-1672

ANTIQUE FIRE APPARATUS

DEPICTED IN COLOR ON HEAVY ABSORBENT COASTERS

Assortment of 2 doz. $1.00 Ppd. 12 doz. only $4.00 Ppd. On lots of two gross or over, we can imprint your name or organization for $1.00 per gross extra. Lots of 6 gross imprinting is FREE. For your WIFE: Two beautifully framed matching 4 x 4 Fire MINIATURES. $3.00 Ppd.

HOBBY MATS
Box 145 Dept. F Balsam Lake, Wisc.

FOR SALE

1926 Seagrave Hook and Ladder 300 ft. of ladders, tested recently now in service. Motor, paint and tires in good condition. March delivery.

SEA GIRT FIRE CO.
Sea Girt, New Jersey

FOR SALE

A 1940 Seagrave, all steel aerial . . . 65 ft. 200 ft. of Ground Ladders (Wood), Ladder Pipe Axes, Pikes, Tools, Etc., good condition.

For information write or phone:
R. E. SPENCE, CHIEF
FIRE DEPARTMENT HQTRS.
311 S. QUEEN ST.—PHONE LE-4-3613
GAINESVILLE, GEORGIA

FOR SALE

1950 Fixible Buick Ambulance, good condition, low mileage. Available after Feb. 15th.

KUTZTOWN LION'S CLUB
100 PINE ST.
KUTZTOWN, PA.
PHONE: KUTZTOWN 4131

FOR SALE

1934 Ford Fire Truck. 300 gallon pump. 500 gallon booster tank with reel. $1000 or best offer.

WESTMONT FIRE DEPARTMENT
WESTMONT, ILLINOIS

AUTO PLATES

Direct from manufacturer
Top quality identification plates at low cost.

Write for Circular
ATCHESON BROS.
60 Main St. Cortland, N. Y.

GAMEWELL CONTROL CABINET FOR SALE

72 Volt. Vitaguard Jr. type control cabinet. Purchased in 1947. Excellent condition.

P. F. CAMMUSO, TREAS.
Village of Seneca Falls
Seneca Falls, New York

TWO-WAY RADIO

Add auxiliary equipment to your present system or as coordinating units with your local police system or neighboring fire system. We have many good, used, mobile and base stations for sale at bargain prices. Also reconditioned Leece-Neville systems.

THE NIXON COMPANY
4850 Lancaster Ave.
Philadelphia, Pa.

WANTED

Aggressive distributors wanted to sell nationally advertised line of fire helmets and other safety equipment.

Box 315
FIRE ENGINEERING
305 East 45th St.
New York 17, N. Y.

Questions and Answers

wherein are answered questions relating to current problems in the fire protection

Engine Pressure With Branched Lines

To The Editor:

An engine is pumping into 500 feet of 2½-inch hose which is branched into two 2½-inch lines each 100 feet long. What is the correct engine pressure required to supply ¾-inch tips on each of the branched lines at 50 psi?

V. A.

Answer: Combine the two parallel lines into an equivalent single line and add the answer to the 500-foot single line:

$100 \div 3.6 = 27.77$ or 27.8 feet approximately.
$27.8 + 500.0 = 527.8$ feet.

Combine the two nozzles into one equivalent nozzle by adding the square of each nozzle diameter and taking the square root of the sum:

$\frac{3}{4} \times \frac{3}{4} = .75 \times .75 = .56$
$\frac{3}{4} \times \frac{3}{4} = .75 \times .75 = .56$
$.56 + .56 = 1.12$
$\sqrt{1.12} = 1.06$ inches (or equivalent to a $1\frac{1}{16}$-inch nozzle)

Engine Pressure is found by the formula:

E. P. = N. P. × (1.1 + KL)
N. P. = 50
K = 1.06 × 1.06 × 1.06 × 1.06 ÷ 10 or .126
L = Number of 50 foot lengths of hose or in the line
L = 527.8 ÷ 50 = 10.56
E. P. = 50 × (1.1 + [.126 × 10.56])
= 50 × (1.1 + 1.33)
= 50 × 2.43
= 121.5 psi

Correction

The December 1956 issue of Fire Engineering carried the following question: "The most violent gasoline explosions occur when the vapor mixture contains by volume about: (a) 1 per cent (b) 2 per cent (c) 4 per cent (d) 8 per cent (e) 16 percent?" The original answer was given as (c).

According to Bulletin No. 32 of the National Board of Fire Underwriters dated February 1, 1937, the most violent gasoline explosions will occur when the vapor mixture contains by volume about 2.25 per cent. Therefore the most nearly correct answer to the question should be (b)!

A typographical error also exists in the same answer . . . "explosive limits 1.6 to 7.4 per cent." According to the NFPA "Handbook of Fire Protection," 11th Edition, the explosive limits of gasoline are between 1.4 and 7.6 per cent. The NBFU bulletin quoted above shows an explosive limit of 1.4 to 6.0 per cent. Both authorities agree that the values may vary according to the grade of gasoline.

Deluge Nozzle Equivalent For Hand Lines

To the Editor:

Three 2½-inch lines, 400 feet in length, each with a 1-1/8-inch tip and 50 psi nozzle pressure are in use at a fire. It is desired to run these lines into a deluge set having a discharge capacity equivalent to the three nozzles in use: The size of the tip on the deluge set should be: (a) 1½-inch; (b) 1⅝-inch; (c) 1¾-inch; (d) 2-inch; (e) 2¼-inch?

Answer: Square the diameter of the nozzles; add all three together and find the square root of the sum. Thus: 1⅛-inch equals 1.125 inches.

1.125 × 1.125 = 1.26562
1.125 × 1.125 = 1.26562
1.125 × 1.125 = 1.26562
1.26562 + 1.26562 + 1.26562 = 3.79686
$\sqrt{3.79686} = 1.95$ or a 2-inch nozzle
Therefore (d) is the correct answer.

Children's Fire-Safety Award Nominations Open

Fire chiefs throughout the country are invited to play an important role in choosing the first select group of boys and girls to receive the Hartford Fire Insurance Company's new national Gold Medal Award in fire prevention and safety.

Under rules of the nationwide awards program, a fire chief may nominate any boy or girl who has performed some outstanding act in connection with fire safety. Also eligible is any child whose interest and activity in fire prevention is considered worthy of national recognition.

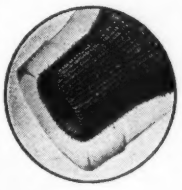
Only a very limited few of the solid gold awards will be presented each year. Recipients will be carefully selected by an independent committee of nationally known fire and safety authorities.

Actions in which the child failed to act in keeping with recognized rules of recommended safe practice will not be considered. The only other requirements are that the child be a pupil of one of the first grades and that the deed or safety activity have taken place on or after October 7, 1956. The child does not have to be a Junior Fire Marshal.

To nominate a boy or girl for the Hartford Gold Medal Award, address a letter of nomination to Awards Committee, Hartford Fire Insurance Company, Hartford 16, Conn. Letters of endorsement, photographs or newspaper clippings will be helpful but are not required.

WHY *Janesville* IS FIRST

CHECK THE FEATURES . . .



that firemen want and get in Janesville turn out suits.

You'll appreciate the flexible, set-in, roomy, sleeves with reinforced cuffs and wool wristlets that prevent the water from running down your arms.

Examine the other details of our fire coats and you'll see why the label **Janesville** stands for quality, protection, comfort and lasting service.

- Finest material
- Durable, easy to clean, corduroy collar.
- Custom - Built . . . coats available in any length wanted. Also sleeve lengths.

Janesville APPAREL CO.
JANESVILLE, WISCONSIN

STEVEN'S

FIRE QUENCHER

THE SAFE WET WATER
Will not damage pumps, hose, packing or glands.

POSITIVE RUST PROTECTION
Eliminates RUST from your booster tanks, will not corrode Brass or Bronze.

PENETRANT AND FOAMING AGENT
Extinguishes fires instantaneously—reduces water damage.

NO FLARE-BACK
Prevents FLARE-BACK on spill and rubber fires.

NON-TOXIC, NON-FLAMMABLE, ECONOMICAL

DO NOT THROW AWAY
Unused solution from booster tank. Store with safety.

UNCONDITIONALLY GUARANTEED
WE PAY THE FREIGHT

Territories open for Agents

S. G. STEVENS CO.
3859 Lockwood Ave.
Toledo 12, Ohio

Please mail folder or sample to:

Name_____
Address_____
City_____ Zone____ State____

CAIRNS

TOP-GRAIN LEATHER

No. 5A
The "NEW YORKER"
REGULATION

No. 550
The "SEAMLESS"
DROP BRIM

FIRE

ONE-PIECE ALUMINUM

No. 350
The "SENATOR"
REGULATION

No. 710
The "STREAMLINER"
DROP BRIM

HELMETS

"FLINT-FLEX" PLASTIC

No. 900
The "CLIFTON"
REGULATION

No. 725
The "CAVALIER"
DROP BRIM

SINCE 1836

We can supply everything the fireman needs for his personal equipment. Write for Catalog 351.

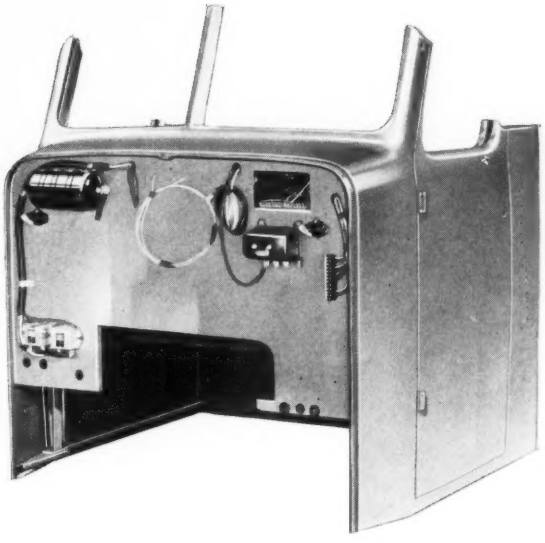
CAIRNS & BRO., Inc.—Allwood, Clifton, N. J.

ADVERTISING INDEX

FIRE ENGINEERING

FEBRUARY, 1957

	Page
Acme Protection Equipment Co.	186
Akron Brass Mfg. Co., Inc.	149
Aluminum Ladder Co.	106
American District Telegraph Co.	116
American Fire Apparatus Co.	96
American Fire Pump Co.	171
American LaFrance Corp.	115
Ansul Chemical Co.	112
Ardmore Products	118
Audio Equipment Co., Inc.	147
Bar-Way Mfg. Co.	171
Bean Div., John; Food Machinery & Chemical Corp.	99
Blackinton & Co., Inc., V. H.	161
Body Guard Mfg. Co.	187
Boston Woven Hose & Rubber Co.	151
Braxmar Co., C. G.	174
Buffalo Fire Appliance Corp.	153
Cairns & Bro. Inc.	190
Circul-Air Corp.	152; 185
Continental Motors Corp.	125
Cornelius Co., The	179
Dakota Chemical Co.	184
Darley & Co., W. S.	164
Daynor Corp.	170
Duo-Safety Ladder Corp.	113
E & J Manufacturing Co.	164
Eastman Co., Samuel	177
Electronic Protection, Inc.	165
Elkhart Brass Mfg. Co., Inc.	166
Emerson Co., J. H.	Inside Front Cover
Eureka Fire Hose; Div. of U. S. Rubber Co.	145
Everson-Ross, Inc.	187
Fabric Fire Hose Co.	89
Federal Sign & Signal Corp.	87
Foard & Co., F. C.	187
Four Wheel Drive Auto Co.	Back Cover
Fyr-Fyter Co.	121
Gamewell Co.	126
General Electric Co.	98
Globe Mfg. Co.	183
Goodrich Industrial Products Co., B. F.	91
Graflex, Inc.	159
Hale Fire Pump Co.	160; 181
Halprin Supply Co.	170
Hannay & Son, Inc., Clifford B.	108
Harron Labs	186
Hewitt-Robins, Inc.	110
Homelite Corp.	122
Hoosier Tarpaulin & Canvas Goods Co., Inc.	176
Howe Fire Apparatus Co.	117
Industrial Radio Corp.	182
International Harvester Co.	92–93
Janesville Apparel Co.	189
Javelin Tool & Supply Co.	183
Katolight Corp.	186
Kohler Co.	156
McIntire Brass Works, F. N.	187
Mack Fire Apparatus	101
Marlow Pumps, Div. Bell & Gossett Co.	90
Maxim Motor Co.	123
Memco Aerial Ladder Co.	178
Midwestern Safety Mfg. Co.	155
Mine Safety Appliances Co.	94–95
Monitoradio Div. of I.D.E.A., Inc.	168
Morning Pride Mfg. Co.	184
Motorola, Inc.	100
Mueller Co.	185
Myers & Bro. Co., F. E.	179
Natale Machine & Tool Co.	180
National Foam System, Inc.	167
Nicerol Limited	124
Notifier Corporation	119
Oberdorfer Foundries, Inc.	175
Onan & Sons, Inc., D. W.	172
Orthopedic Frame Co.	162
Pacific Reflex Signs	173
Parco Products	158
Pirsch & Sons Co., Peter	Inside Back Cover
Powhatan Brass & Iron Works	97
Pyrene-C-O-Two Div., Fyr-Fyter Co.	105
Pyrotronics Division, Baker Industries, Inc.	107
Quaker Rubber Corp., Div. H. K. Porter Co., Inc.	163
Republic Rubber Div., Lee Rubber & Tire Corp.	114
Rockwood Sprinkler Co.	103
Scott Aviation Corp.	157
Seagrave Corp.	111
Sharpsville Steel Fabricators, Inc.	173
Sireno Co., Inc.	186
Smith & Co., D. B.	102
Stephenson Corp.	175
Sterling Siren Fire Alarm Co., Inc.	177
Stevens, S. G.	189
Super-Vacuum Co. Inc.	181
W-B Manufacturing Co.	169
Ward LaFrance Truck Corp.	109
Waterous Company	120
Waukesha Motor Co.	104
Worcester Brush & Scraper Co.	172



YOU GET EXTRA RESERVE IN PIRSCH PUMPERS

Extra reserve in horsepower and torque means extra ability to get to the fire with men, hose and equipment and to deliver the necessary volume of water at effective fire fighting working pressures.

Pirsch pumpers have long been recognized for their extra ability and outstanding service performance.

The 1000 gallon Pirsch pumper featured above has been delivered to the City of West Palm Beach, Florida.

All Pirsch built cabs; semi, two-door and four-door are of all metal construction, 10 gauge steel frame, 12 gauge dash and 16 gauge cold rolled stretcher levelled cowl, doors and panels. This gives real protection for your men.

Write for Pirsch pumper information, also our new booklet "America's Finest Aerial Ladder Trucks."

PETER PIRSCH & SONS CO. KENOSHA, WIS.

"BUILDERS OF AMERICA'S FIRST ALL-POWERED AERIAL LADDER TRUCK AND AMERICA'S FIRST 100' AERIAL LADDER"

New FWD cuts run time safely with Four Wheel Drive Control

HERE'S DEMONSTRATED PROOF: No other Fire Engine corners like an FWD with its powered front axle and special power and weight proportioning. No other Fire Engine sprints on straightaways with the same kind of driver control.

Four Wheel Drive pumpers cut run time with a steady, mile-eating pace made possible by their special traction. The driver has four powered wheels pulling to prevent skids. He has natural power steering for cornering. In any weather or terrain he can get there faster with safer control!

The FWD Fire Line includes pumpers, aerials, tankers, crash and rescue trucks—all with the latest and finest equipment and with *safer* Four Wheel Drive. Get the extra "fire insurance" of FWD for your community!

Builders of America's Finest and Safest Fire Apparatus

THE FOUR WHEEL DRIVE AUTO COMPANY • CLINTONVILLE, WISCONSIN • Canadian Factory: KITCHENER, ONTARIO

Valley

ARIO

MA